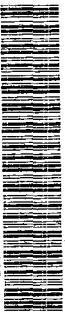


THE ATOM

Los Alamos Scientific Laboratory

September 1968

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COVER:

A photograph of ocean waves slapping at rocks on the rugged coastline of Amchitka Island decorates The Atom's cover this month. The photo and others that accompany a story about the island, are the handiwork of Pub-1's Bill Richmond, who toured Amchitka in April. Richmond's photostory gives some insight as to what LASL personnel can expect to find at one of the Atomic Energy Commission's newest supplemental sites for underground nuclear tests. The story begins on page 8.



In the compartment adjoining the wheel of an activity chamber, a white mouse keeps his eyes on Pub-1 Photographer Bill Jack Rodgers. Scientists subjected mice to several different color environments to determine if color has any effect on the activity of mice. The counting device at the top of the chamber shows how many revolutions the mouse turns the activity wheel.

Colorful Experiments with Mice And Lights

By Ken Johnson

Some of the most colorful research at the Los Alamos Scientific Laboratory these days has to do with mice and lights. And by colorful, we mean it, in its most literal sense.

At the health research laboratory, members of H-4's mammalian radiobiology section are conducting experiments to see if different color environments have any effect on mice. Leading the effort are John F. Spalding, section leader; L. M. Holland, staff member; and R. F. Archuleta, technician. Data analysis was done by Gary Tietjen, C-5.

Spalding noted that the experiments are "back-burner" or "closet" projects, so-called because they are being done with existing laboratory capabilities.

The scientists became interested in such experiments during the course of studies to determine the effects of ionizing radiation on the human body. The studies are of particular value in our space effort and to the military and civil defense programs. Some of the questions scientists are trying to find answers for are: What kind of radi-

ation and in what amounts can the human body withstand, so that an astronaut in deep space does not become so affected that his mission has to be aborted? How rapidly can the body repair itself from radiation-induced injury (traumatic injury)? To what extent are such injuries irreparable by the body; and what effect, if any, will exposures have on future generations?

John Nash Ott of the Environmental Health and Light Research Institute, Sarasota, Fla., was studying effects too, but of a different type. He was engaged in time-lapse photography of plants and animals, and had observed that activity in some of his subjects varied when reared under different color environments.

Ott's lectures and writings about

continued on page 2

Colorful Experiments . . .

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his observations did not go unnoticed by Laboratory scientists, who saw a possible relationship to their own studies in radiation effects.

After scientifically testing some of the observations, however, scientists were not always in agreement with Ott. For example, Ott maintained that different color environments affected the sex ratio of offspring from paired mice. In an experiment at Los Alamos to scientifically determine whether or not this was so, two replications with different mice failed, statistically, to show any difference at all in reproductive characteristics.

Thirteen pairs of mice had been placed in three different color environments for almost a year. The environments were lighted by either cool white, blue or pink fluorescent lamps.

Factors observed were (1) percentage of females born; (2) average litter size; (3) number of litters born; (4) total number of mice born; (5) total number of mice weaned; (6) percentage of females weaned. By subtraction, the number of males born and weaned was also determined.

Other experiments were also conducted, and with some striking results. In one of them the scientists investigated the influence of several color environments on voluntary activity of normal and blind mice.

Thirty-six female albinos, 12 of which were blind, were subjected to environments of green, blue, daylight, yellow, red and darkness. The mice were confined in activity chambers, consisting of a wheel and adjoining compartment. In their respective activity chambers, they were placed in one of the light environments for 18 hours, and then were caged for 30 hours under standard laboratory conditions before being placed in another color environment at random. After each mouse had experienced 18 hours in each of the six environments, the experiment was repeated. Activity

was measured by the number of revolutions each mouse turned the wheel in its activity chamber.

The activity of the normal mice was, indeed, affected, not so much between colors, but rather among groups of colors. They were most active in the red and dark environments; less active in the yellow; and least active in daylight, green and blue.

The experimenters said the effect was due to vision, a conclusion supported by the fact that the blind mice failed to respond differently to any of the six environments.

It was not surprising that the normal mice would be more active in the red and dark environments, because the mouse is nocturnal, and thus is more active at night. Red appears as darkness to nocturnal animals. The lack of difference between the red and dark environments is thought to be an indication that there are few cones in the retina of the albino's eyes. Cones are cells that discriminate colors.

Another reason the mouse was not able to distinguish between red and darkness may be that its eyes are sensitive to wavelengths of the visible colors rather than to red specifically. This theory is based on the fact that the mice were significantly more active in the yellow light than in daylight, blue or green. Spalding explained that if this is true, then while red appears to the mouse as darkness, yellow might appear as dusk and the third group of colors as daylight. This effect was not anticipated since yellow appears much like daylight to the human eye.

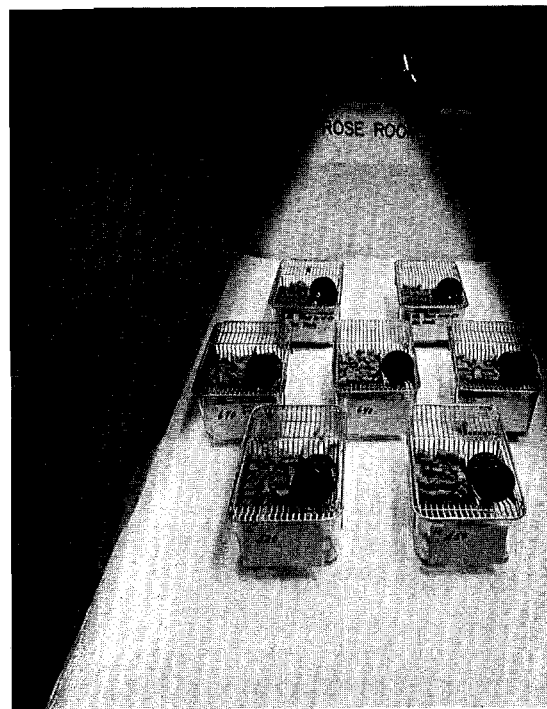
The scientists also observed that some mice were more or less active than others in the same color environment. Consequently, activity might also be dependent on the age, sex and mouse color. To test these factors 12 white females of the same strain, and 24 nondescript black mice—half males and half fe-

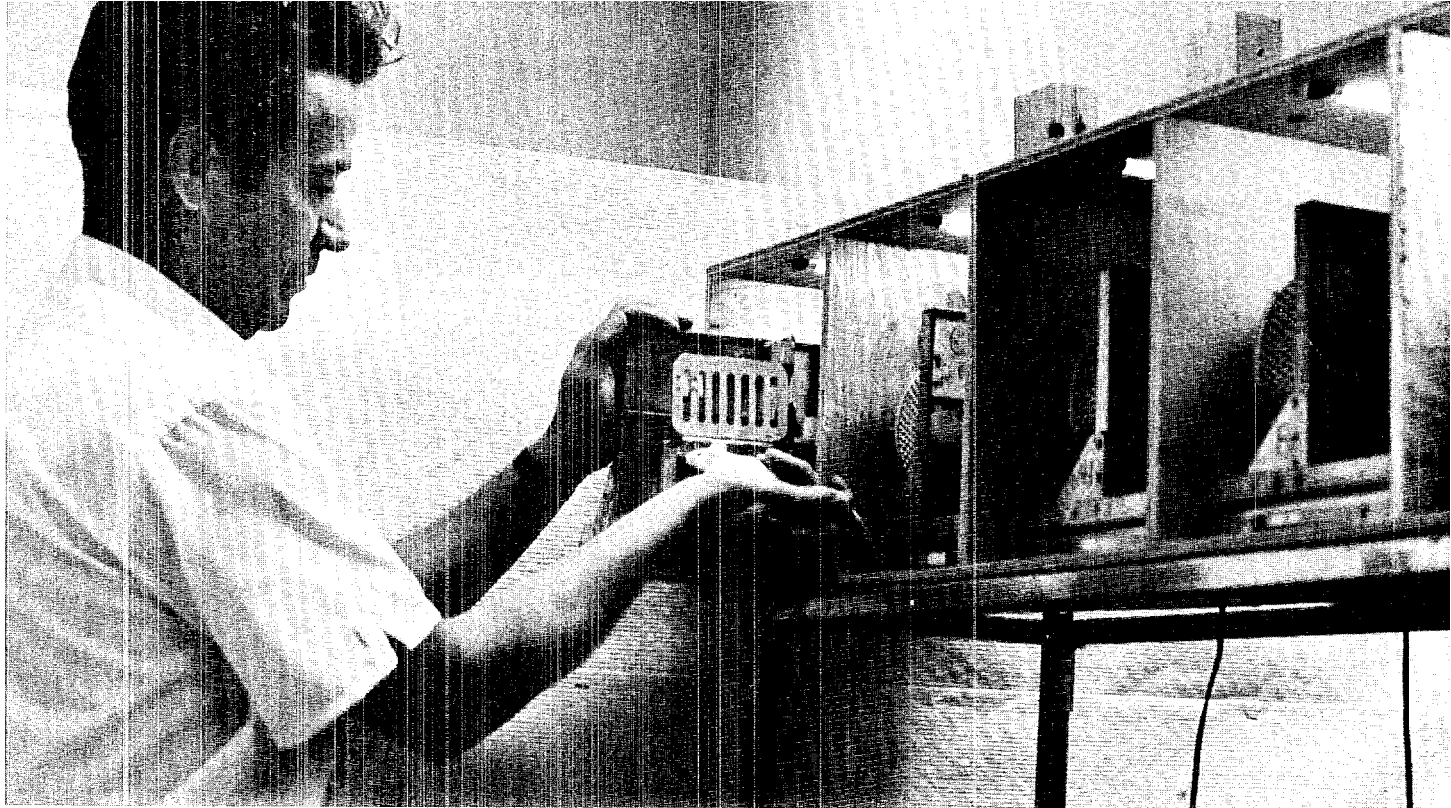
Different color environments had no affect on the reproductive characteristics of mice. A total of 13 pairs of mice were caged separately in each of three color environments, lighted by either a cool white, blue or pink fluorescent lamp, for nearly a year. Other conditions were similar to those shown in this photograph.

males—were selected. Half of the albinos and half of the black mice of each sex were six weeks old. The rest were six months old. Procedures and conditions for this experiment were the same as for the one previously conducted.

The white mice responded to a much greater degree than the black mice, which could mean amounts of activity are influenced by strain, or by differences in the eye, because the eye of the black mouse is well pigmented, while the eye of the white mouse is not.

Age apparently made no difference to the females, but within the black males the six-week-old set was significantly more active than those that were six months old. Overall, the black males were less active than the females of either color.





R. F. Archuleta "loads" the compartment of an activity chamber with a white mouse.



R. F. Archuleta records the number of revolutions a mouse has turned its activity wheel. Each compartment shown is lighted by a fluorescent lamp of a different color.

Consequently, environmental lighting, sex, strain, and age of mice would all have to be considered as variables in any further cause and effect studies.

Aside from these experiments, J. E. Furchner, staff member in II-4's mammalian metabolism section, became interested in the effect that color environments had demonstrated on the activity of mice. "If activity increases, then oxygen consumption does too," Furchner said, "and if oxygen consumption increases, then so does the metabolic rate."

Furchner is studying metabolism rates of rats by injecting small amounts of different isotopes into their systems and then determining in what amounts a given isotope is retained by the body on a day-to-day basis. By using a conversion factor the information can be related to other mammals, including humans.

On the sixth day after receiving an injection of cesium 137, rats confined under blue light retained 65 per cent of the isotope, or in other words, had excreted 35 per cent of

it. Rats confined under red light retained 59 per cent of the cesium.

Furchner's experiment indicates that the rats exposed to the red light excreted the cesium faster, because of a presumed increase in their metabolic rates.

In view of the conclusions drawn from these experiments, the scientists have prudently speculated that there may be other applications for artificial color environments, such as in industry to increase the productivity of the working man; or in agriculture to stimulate dairy production or cattle breeding. But to speculate now on any applications beyond these would probably be premature, for present experimentation has provided only a clue to the future.

Scylla I To Be Displayed At Smithsonian

Scylla I, a Los Alamos Scientific Laboratory device that produced the world's first laboratory-controlled thermonuclear reaction, is to be put on exhibit at the Smithsonian Institution, Washington, D. C.

Scylla, as it was first known, was built for Project Sherwood, the nation's program to control a thermonuclear reaction for peaceful purposes.

It became operational in 1958 and was, in that year, included in the selection of U.S. fusion devices to be exhibited at the Atoms for Peace Conference in Geneva. For this reason, it became known as Scylla G (Geneva).


The conference was to be the occasion for the simultaneous drawing aside of the cloak of secrecy among nations engaged in controlled fusion research, and promised to be a fascinating demonstration of what happens when many nations undertake the same task independently.

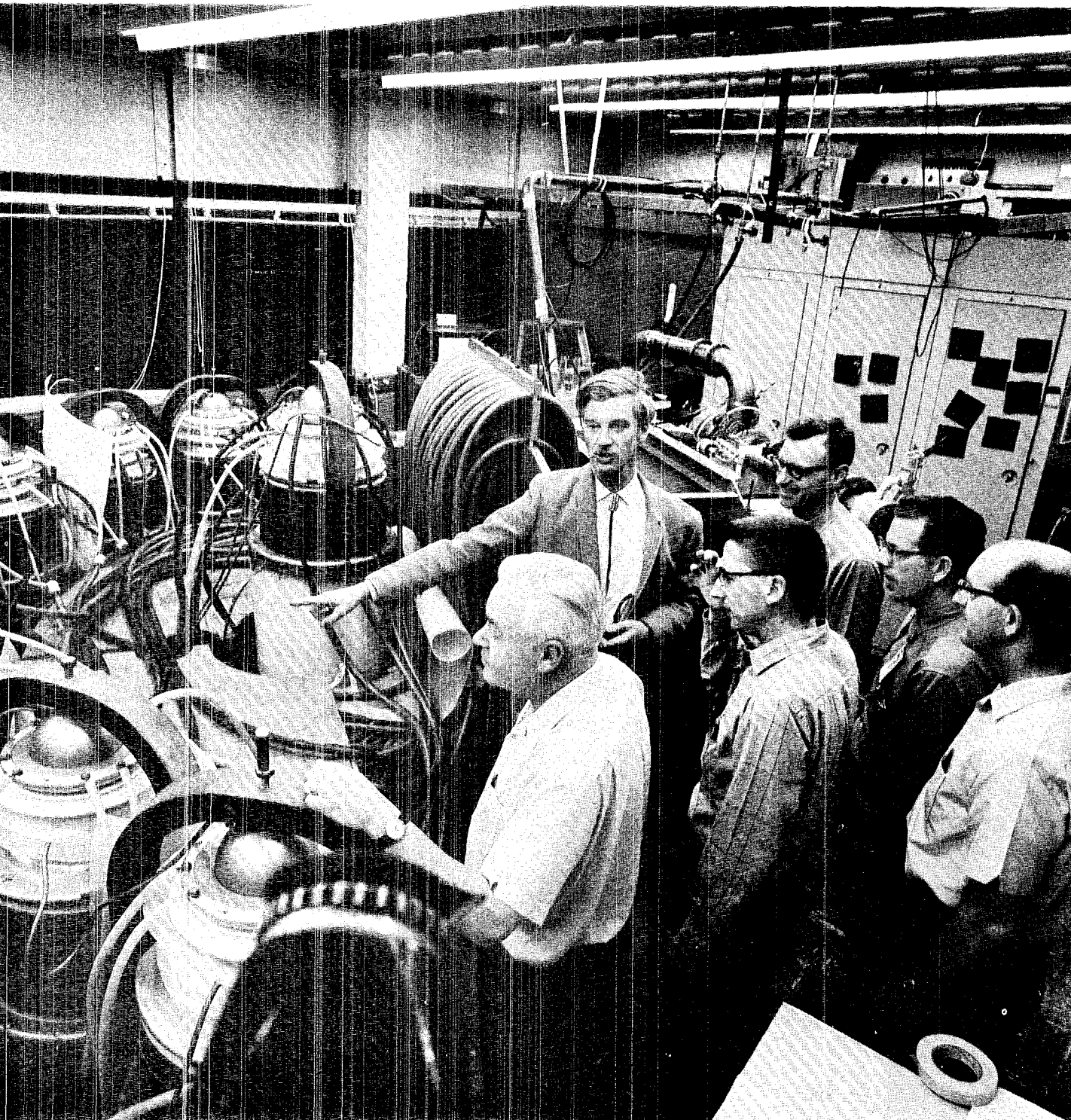
There were no claims, by any nation at the conference, to have produced a thermonuclear reaction, but it was appreciated that LASL's Scylla G might have. In 1958 such a reaction was not easily detected. The trick was to measure the neutron energy distribution, but even so, neutrons, as indicators of thermonuclear properties, were held in low esteem among plasma physicists as a result of experiences with neutrons produced by reactions which were not thermonuclear. Consequently,

even the probability that Scylla G had produced a thermonuclear reaction was received somewhat coolly by other fusion laboratories of the United States. It did, however, receive considerable acceptance overseas. Ambitious programs, based on Scylla, were launched in the United Kingdom, Germany and Italy. The General Electric Company also initiated a similar, and very successful, program at Schenectady, New York.

It was not until about 1960 that it became a proven fact; Scylla G—or Scylla I as it became known—had produced a thermonuclear reaction.

In the years that followed, as technology in fusion reactions evolved, Scylla I became obsolete insofar as Project Sherwood at LASL was concerned. But the apparatus was not about to be cast aside. In February, 1967, it was loaned to the High Altitude Observatory at Boulder, Colo. Officials of the observatory had requested it for use as a light source, or "solar simulator," in experiments concerning line identification of soft x-ray and vacuum ultraviolet spectral regions, outside the earth's atmosphere.

Scylla I was used at the Boulder observatory for about a year and one-half. It was returned to the Los Alamos Scientific Laboratory about a month ago. Except for a few parts, taken off for use at the Laboratory, Scylla I was on its way, via truck, to the Smithsonian Institution the same day it arrived in Los Alamos. 



Six of the seven members of the original LASL research team which used the Scylla I machine to produce the world's first controlled thermonuclear reaction were on hand to watch the dismantling of the historic device for shipment and loan to the High Altitude Observatory at Boulder, Colo., in early 1967. Pointing is James L. Tuck, associate P division leader who headed the pioneer Sherwood group. Others, from left to right, are Keith Boyer,

former P-15 group leader and presently associate J division leader; Warren E. Quinn, associate P-15 group leader; Edward M. Little, P-15 staff member; Robert S. Dike, associate P-16 group leader; and Aldred E. Schofield, P-14 staff member. The missing member of the team is Professor William C. Elmore, now at the physics department of Swarthmore College, Pa.

Olympic Hopefuls Meet At

Efforts to develop Los Alamos as a training site for the summer Olympics appear to be highly productive considering the participation of aspirants from many parts of the country in the recent combined AAU Region Ten Women's Track and Field Championships and Second Annual Los Alamos High Altitude Development Track and Field Meet.

The women's meet was a qualifying event for the AAU National Championships. Those who win at the national meet will be eligible for the Olympic trials. The High Altitude Development contest is aimed more specifically at bringing Olympic hopefuls to Los Alamos for training.

As can be seen in some of the pictures on these two pages, local spectators showed their enthusiasm for the combined event by jamming the bleachers and other vantage points at Sullivan Field.

In the past, individual Olympic aspirants have trained in Los Alamos, and last year the community was a research site to help establish high altitude training standards for the country's athletes. This month the United States Women's Track and Field Team will be training here.

Many aspirants have found that a big advantage in training at Los Alamos is that they can acclimate themselves to an altitude that is the same as that of Mexico City, where the summer games will be held Oct. 12-26.

Willy Rios of Puerto Rico, running for the Oklahoma Association (in second lane from right) set a new meet record in the men's mile run with a time of 4:18.4. A Los Alamos contestant, Rick Rojas (in second lane from left), was second with a time of 4:23.7.

Spectators, estimated at more than 700, jammed the bleachers to see the events of the combined track meet.



U.S. Army entry Doug Wiebe (54), a marathon trainee at Alamosa, Colo., finished first in the men's three mile run. Adrian De Windt, Jr., an unattached runner from Albuquerque (21), finished second. Third place went to John Peterson (50), who is also training in Alamosa for the marathon event.



Los Alamos



Chi Cheng of Formosa, running for the Crown Cities Track Club, Azusa, Calif., came within one-tenth of a second of the women's world record in the 100-yard dash as she finished in a time of 10.4 seconds. She also took top spots in the 220-yard dash and the 80-meter hurdles.

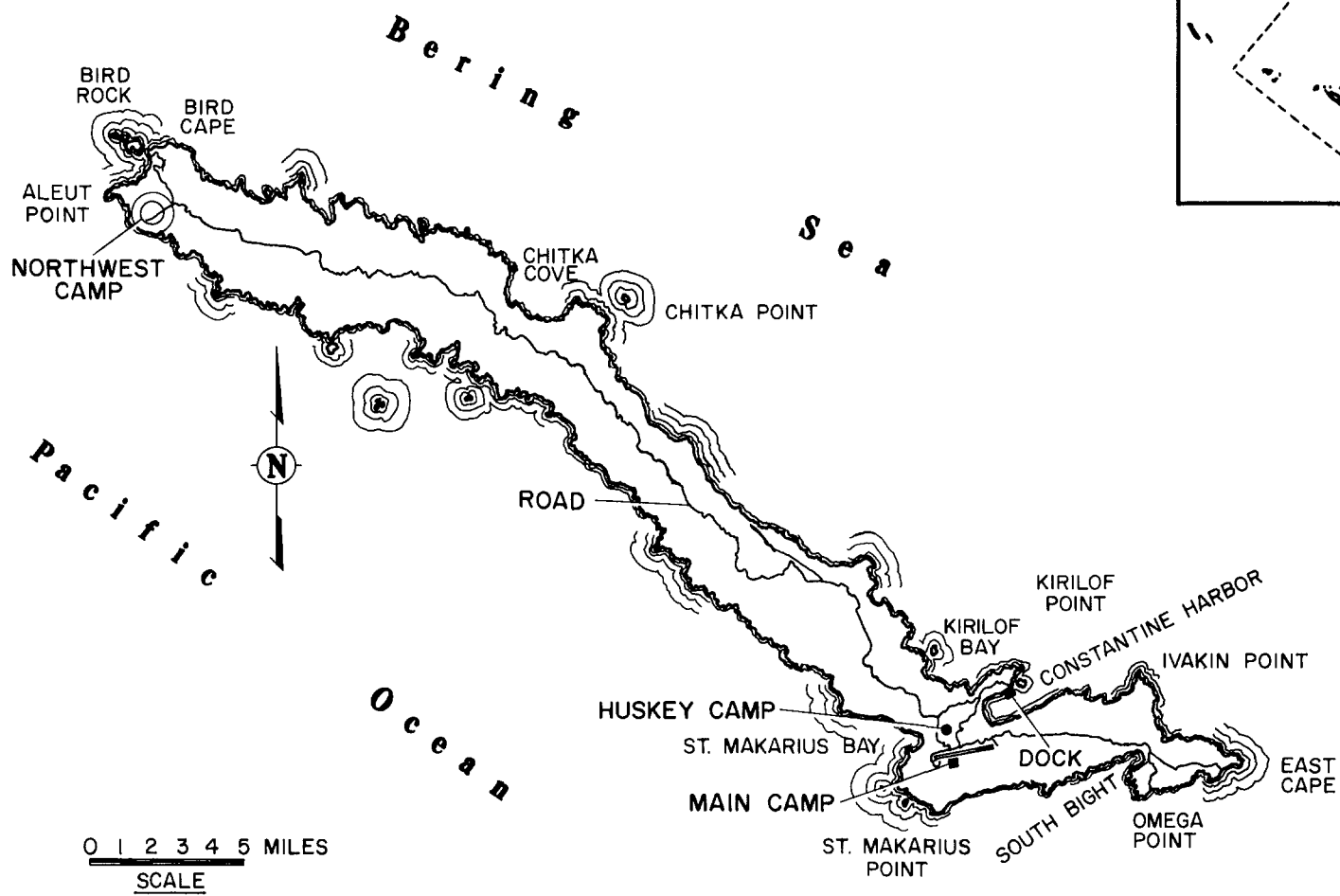
Sharan Bell, Lubbock, Texas, took second place in the women's long jump event.

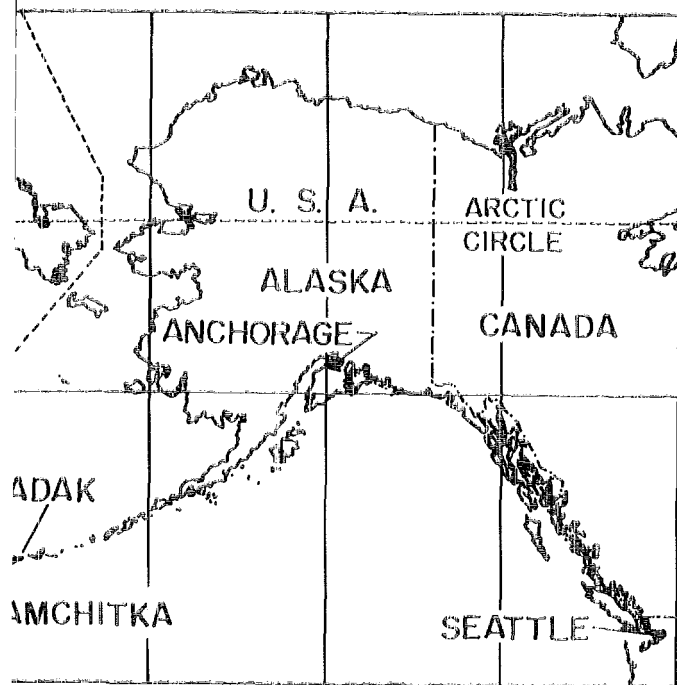


Intently watching one of their companions race are Debbie Coleman, Abilene, Texas, and Sharan Bell, Lubbock, Texas.



Mavis Laing of the Phoenix Track Club, Ariz., shows winning form as she clears the bar in the women's high jump event to take second place.





This is the story
of an island
—an Aleutian island—
named

AMCHITKA

By Bill Richmond

Chances are that few people have heard of this island, located near the extreme end of Alaska's Aleutian chain, roughly 4,000 air miles from Los Alamos.

However, Amchitka may be destined to play a major role in increasing scientific knowledge and contributing to the primary mission of the Los Alamos Scientific Laboratory—research and development work on nuclear and thermonuclear weapons.

This is because Amchitka has been selected by the Atomic Energy Commission as one of two proposed supplemental sites for underground nuclear tests at yields higher than are desirable at the Nevada Test Site.

Under current plans, scientists, technicians and support personnel from LASL will travel to Amchitka in 1969 for the first tentatively planned tests.

What are the living, working and recreational facilities like? Why was Amchitka chosen as a test site? What is the history of the island? This story is an attempt to answer these questions.

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... Amchitka

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In October, 1966, the AEC initiated a program to investigate and develop possible locations for use as supplemental sites for underground nuclear testing at higher yields. The AEC announced: "The use of supplemental test sites is not expected to affect the programs now conducted at the Nevada Test Site."

Several places throughout the world were considered, and in January, 1967, Hot Creek Valley in central Nevada and Amchitka Island were selected—with Amchitka expected to be the site for testing higher yield explosives than Hot Creek Valley. It was later announced by the AEC: "No other areas are now under active consideration."

Before discussing Amchitka's status at the present time, a brief look into the geography, ecology and history might be appropriate.

There are approximately 70 named islands in the Aleutian chain, reaching out for a thousand miles from the Alaskan Peninsula toward the Soviet Union's Kamchatka Peninsula in the North Pacific.

The Aleutians are composed of four main groups: The Fox Islands, nearest Alaska; the Andreanof Islands; the Rat Islands (of which Amchitka is the largest); and the Near Islands which are farthest west and the smallest group of all.

The Aleutians are actually a continuation of the Alaskan Peninsula. Many of the islands are mountainous, being the tops of an underwater mountain range. There are a number of active volcanoes in the chain with one—Shishaldin on Unimak Island—towering more than 9,000 feet. The larger islands have lakes and streams while the shorelines consist of boulder and sand beaches, rocky cliffs and offshore islets and reefs.

They are virtually treeless, supporting only a dwarfed flora of willow and alder and alpine heaths and meadows. Some taller shrub growths occur on Unimak and Attu Islands. A stand of beach grass marks shorelines, and offshore waters support large kelp beds.

Wildlife—especially birds—are abundant on the island chain. In addition to the expected sea gulls, other birds include the bald eagle, falcons, ptarmigans, ducks, sparrows, loons, and numerous others. Of all the emperor geese in the world, about half winter in the Aleutians.

The sea otter, a marine mammal that bears one of the world's most valued furs, makes its principal

home in the waters off islands in the central part of the chain from Adak to Kiska. At one time the sea otter was nearly extinct because of overhunting. However, strict controls have brought its numbers back to nearly 20,000. Another and much larger sea mammal, the northern sea lion, is common. Harbor seals are also residents of Amchitka.

Some of the islands—although not Amchitka—also have brown bear, caribou, wolves, wild reindeer, shrews, ground squirrels, weasels and foxes.

An interesting point in the animal history of the Aleutians concerns the arctic foxes. During the period of 1915-25 large families of arctic blue foxes were introduced on most of the Aleutians, converting the islands into a commercial farming enterprise. These pelts are now valueless and complete removal of the foxes is necessary to restore the native bird life. This has already been done on Amchitka resulting in a prompt and striking increase of wildlife on the island.

The possibility of eliminating another "pest" on Amchitka and the other islands is expected to be a great deal harder even if it is possible. These are Norway rats which were more than likely introduced during World War II. These voracious rodents have a serious effect on nesting birds and at times even become a problem in the base camps.

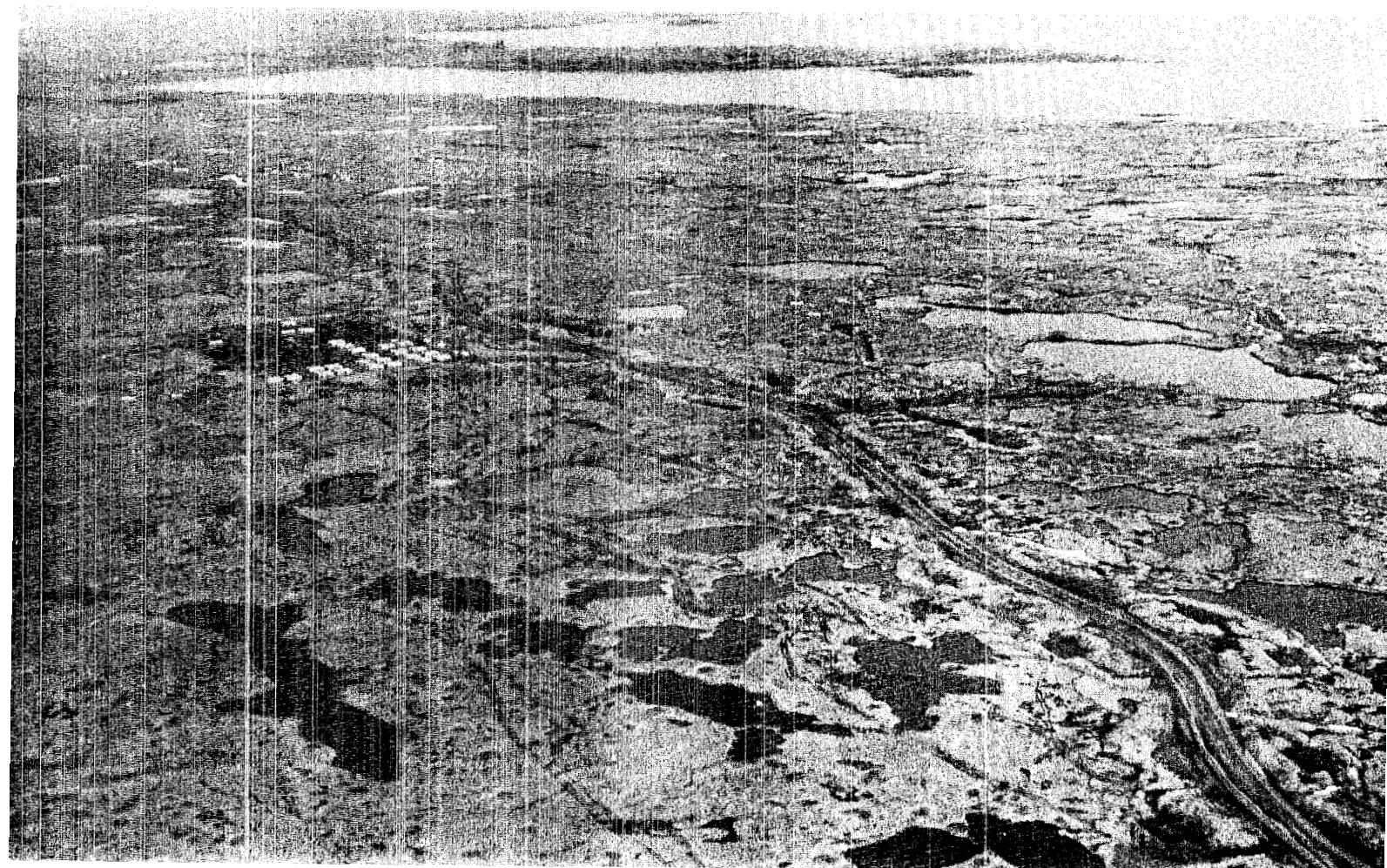
It is well to emphasize at this point that Amchitka is part of the Aleutian Islands National Wildlife Refuge; and many federal and state agencies are cooperating to minimize the impact of human presence on the island by minimizing disturbance to wildlife and the natural environment. For example, island workers are not permitted to have firearms.

Amchitka is about 42 miles long and three to five miles wide. It lies in a northwesterly-southeasterly direction and is approximately 1,400 miles southwest of Anchorage, 800 miles east of Kamchatka, Siberia, 1,450 miles northeast of Hokkaido, Japan, and at the same latitude as London, England—about 51°N. (This is only a few degrees above the Seattle, Washington, latitude of 48°N.)

The nearest habitation is 178 miles to the east on Adak Island and the next closest is on Shemya Island, 257 miles to the northwest. Both are U.S. military bases.

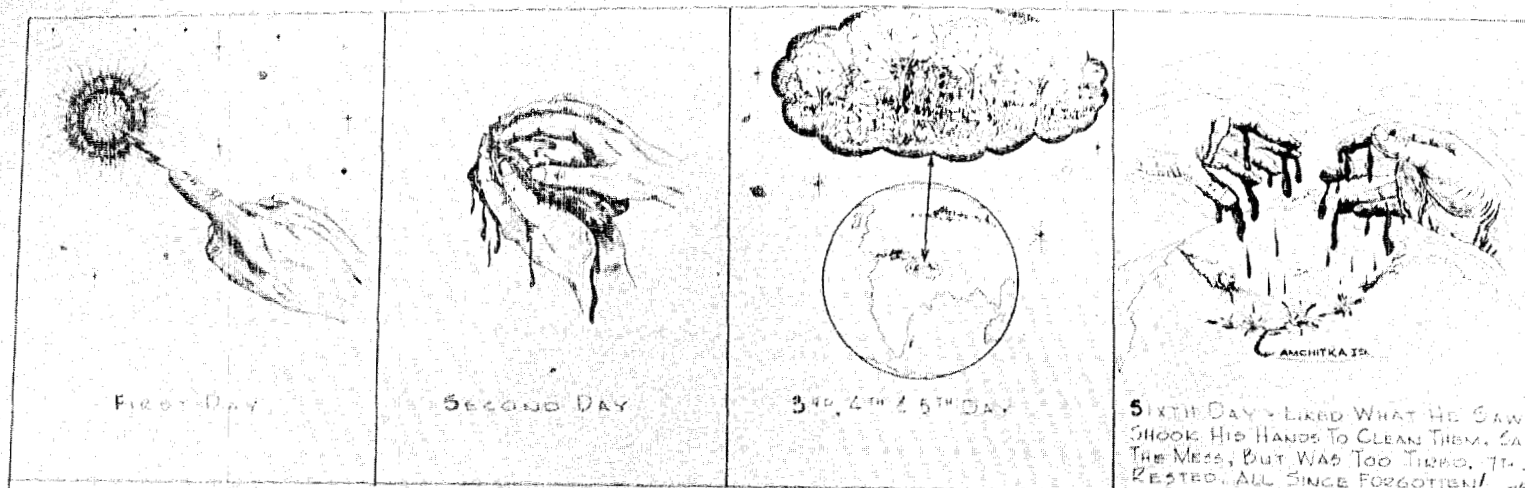
The southeastern part of Amchitka is very low—the highest point is 351 feet above sea level—while the northwestern area is very hilly and much higher, with peaks rising to 1,200 feet. The

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Lakes and ponds, ranging from a few to many acres in size, dot the Aleutian Islands.

This is not "exactly" how the Aleutians were formed, but it is one of the more humorous concepts.



THE FIRST STORY OF THE ALEUTIANS

... Amchitka

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land levels out toward the middle of the island and consists of rolling tundra and flat tableland. This area is dotted with an abundance of shallow ponds and small lakes which vary from a few to more than 60 acres in size, generally from one to five feet deep. Most of the coast is fringed with reefs and conceals extensive kelp beds. The shores are generally steep with many off-lying, covered rocks, especially on the north shore and the eastern part of the south shore.

The Botany Department of the University of Tennessee, under a sub-contract with Battelle Memorial Institute, is presently conducting a study into the plant ecology of Amchitka, of which very little is known.

The vegetation on the island is usually described as Maritime or Oceanic Tundra. Although the tundra on Amchitka is in some ways similar to Arctic Tundra, the island is far from arctic and the Aleutian Tundra is more like the moorlands of the British Isles.

A good portion of Amchitka is overlain by sedge-grass peat, in some areas up to 15 feet thick. The peat acts like a blotter and is often 70 per cent water by weight. The very wet peat prevents the successful growth of many types of plants, and there are not many varieties of higher plants on the island.

In addition to the peat lands on the island, there are two other major vegetation types—the beach vegetation, usually grasses on a very sandy soil, and the upland vegetation of grasses and crowberry on mineral soil.

There are no trees on Amchitka except for three very underdeveloped fir trees which were planted during World War II at the old Officers' Club and have grown only a couple of feet high. These trees are known as "The Amchitka National Forest."

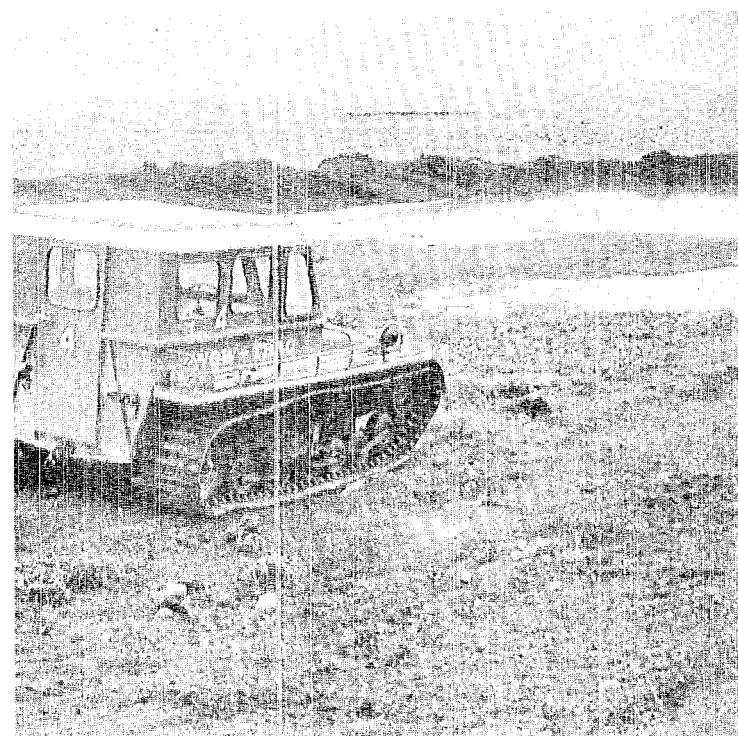
The geology of the island is characterized by volcanic materials of various types. Among these are ash, tuff, breccia and lava flows of generally andesitic composition, apparently emplaced under the ocean after volcanic eruptions. These rocks were deformed, split and subjected to erosion during and after deposition. Bedrock is exposed at or near the surface over much of the island with the soil mantle consisting chiefly of clay and organic material. This surface mantle varies from a foot or less to an estimated 20-foot thickness. Once the



Bob Brownlee, J-DO, visits the "Amchitka National Forest" in front of the old Officers' Club.



Certain parts of the island can be reached only by using track-type vehicles.



cover of grass and tundra moss has been broken, the underlying clay, organic clay and peat become unstable and in many areas will not support construction equipment or vehicles other than specially designed track-type vehicles.

"Normal" weather on Amchitka is overcast skies, wind, rain or snow and storms. One authority states: "No other area in the world is recognized as having worse weather, in general, than that which the Aleutian Islands experience."

The highest temperature ever recorded on Amchitka was 65°, with the lowest being 15° above zero. The average daily temperature is 39° while the mean daily high is 42° and the mean daily low is 36°. There is very little fluctuation of temperature. On the average, precipitation is recorded on 200 days of the year. The average annual precipitation is 35 inches and there is an average of 70 inches of snowfall each year. The average wind velocity is 24 miles per hour and there is not a dominant wind direction. The highest wind speed recorded on the island was 115 mph and the highest recorded during the current occupancy was 104 mph.

Snowfall can be expected from November through April; heavy dense fog in June, July and August; two to four inches of rain each month, with August being the rainiest month and June the driest. The "better" months in regard to weather conditions are May and September.

The weather is extremely local, with conditions of fog, low ceiling, high winds and clear weather often all being encountered in a distance of 20 miles, not too much different than New Mexico. Clear weather over large areas of Amchitka is seldom found. It is a noteworthy characteristic of the weather in the Aleutians that the northern shores of the islands have far better weather generally and much less fog than the southern shores. The winter temperatures over the Aleutians are moderated by the warm waters of the Japanese Current and thus the island waters are normally free of ice which would interfere with navigation and shipping.

Cloud ceilings average less than 1,000 feet, and visibility is less than three miles during 60 per cent of the year and 83 per cent of the summer.

The Aleutian Islands were first "discovered" and explored in 1741 by an expedition headed by Vitus Jonassen Bering, a Danish explorer employed by Russia. Bering was commissioned to explore and map the far reaches of the Siberian arctic regions by Peter I of Russia.

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. . . Amchitka

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Bering's party sighted the Alaskan mainland in the summer of 1741, and was enroute west along the Aleutian chain when his ship encountered rough weather, and he and his crew were shipwrecked on Bering Island. In December, 1741, Bering died. The survivors of his crew managed to construct a small vessel and sail home to the Kamchatka Peninsula of Russia in the summer of 1742.

Unfortunately, these survivors returned with some excellent sea-otter skins and started a rush of fur traders (called the "promyshlenniki") to the Aleutian Islands. These were rough, resourceful men who obtained large fortunes in the fur trade—at the expense of the Aleuts who inhabited the islands. Because of their skill in hunting sea mammals, the Aleuts were used by the fur traders who treated them with extreme cruelty.

The Aleuts are of the same stock as the Eskimo and have become, through long contact with Indians and whites, chiefly a mixed breed. And although their language is a member of the Eskimo-Aleut family, they more closely resemble their North American Indian neighbors than they do the Eskimos.

In 1741, when they were first noted by Bering, their population was estimated as being between 20,000 and 25,000. However, due to the ruthless policies of the fur traders, disease, and tribal wars with natives on the Alaskan mainland, only about 2,000 were accounted for at the end of the 18th century. Currently the Aleut population is reported to be less than 1,000. (There are only two Aleut villages now, Atka on Atka Island and False Pass on Unimak Island.

The Aleutian Islands National Wildlife Refuge was established by President Taft in 1913 and the sea-otter—as well as numerous other species of wildlife and native birds—are now protected by law.

The first permanent white settlement was established in Alaska in 1784 on Kodiak Island by the Russians. Russia controlled Alaska and the Aleutian Islands until 1867 when they were purchased by the United States for \$7.2 million. Alaska—including the Aleutians—was admitted to the Union in 1958 as the 49th state.

The Aleutian Islands played a very important role in World War II. United States' military air bases were located on a number of islands—in-

cluding Amchitka, Dutch Harbor and Adak. On June 3, 1942 the Japanese bombed Dutch Harbor. During the following two weeks the Japanese occupied Attu and Kiska Islands and the U.S. launched counterattacks from bases located on Amchitka and Adak.

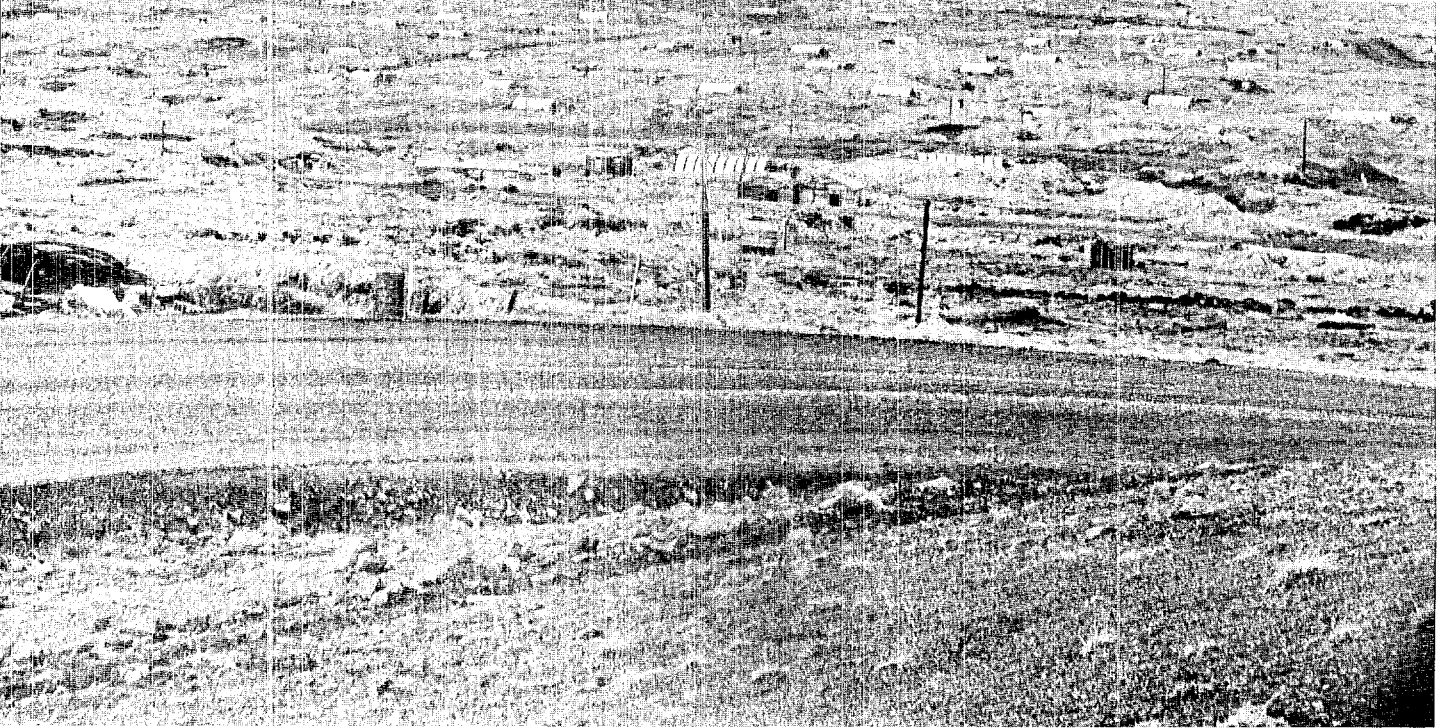


On May 11, 1943, U.S. forces landed at Holtz Bay and Massacre Bay on Attu and in three weeks of bloody fighting retook the island and established an air base. Kiska's supply routes were cut off by the recapture of Attu and the Japanese evacuated the island without a fight in August, 1943.

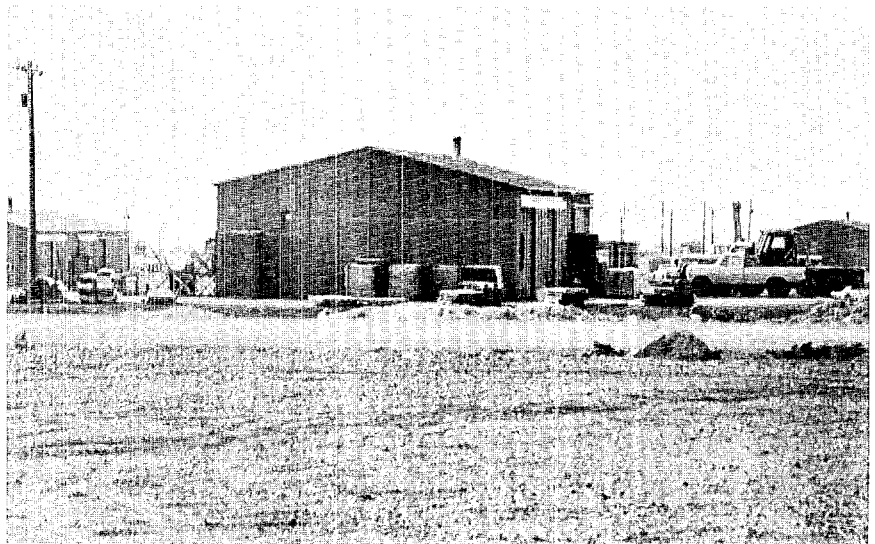
After the Japanese surrender in 1945, the U.S. forces on Amchitka withdrew and abandoned the base. They left behind hundreds of deserted buildings—primarily quonset huts—and several miles of excellent runways, taxiways and hardstands for parking aircraft.

A local legend has it that one day the troops on the island—reportedly as many as 25,000—were told to pack their gear and climb aboard ships anchored in the harbor. All types of equipment and supplies were supposedly left behind in the mass exodus from "The Rock." There are tales of buried cases of liquor somewhere on the island in the vicinity of the Officers Club (which is still standing), buried cases of M-1 rifles which were packed in cosmoline and should be as good as the day they were manufactured, and buried cartons of jeep parts which were shipped to the island and then reassembled for local transportation. The

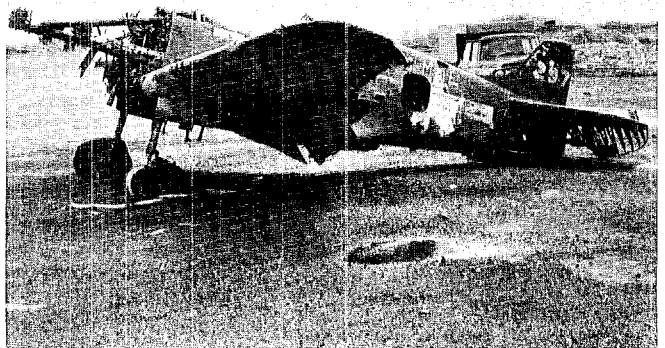
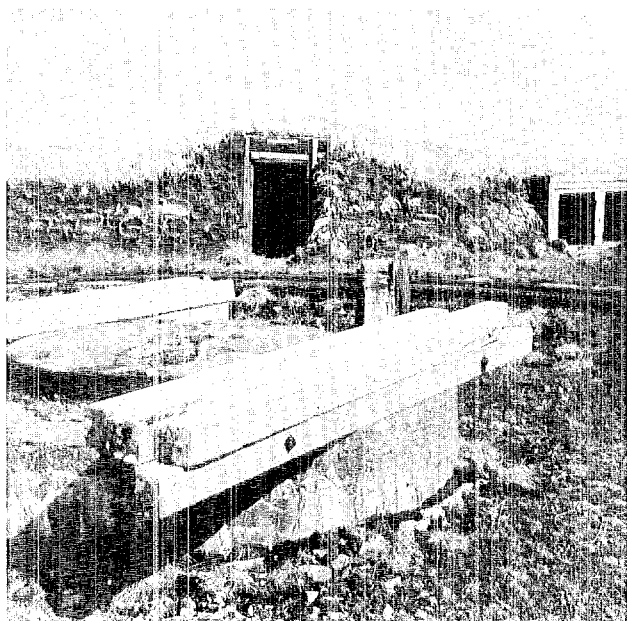
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Hardstands, on which aircraft were parked during World War II, are ideal for warehouse locations.



The remains of World War II gun emplacements dot the island. This one overlooks the beach not far from the main camp.



The wreckage of a gallant aircraft is a bleak reminder of the war years on Amchitka.

... Amchitka

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island's climate preserves wood well and the buried material should be as good as new . . . if it exists.

One relative "old-timer" on the island says he thinks he knows where some of the rifles may be buried. However, he has never attempted to dig them up because, in his words, "What are you going to do with them? You can't own a rifle on the island, you can't ship them off, and besides, they are still government property."

Another war-connected story is the "water-tower-that-isn't" on St. Makarius Point, not far from the main camp. At first glance this pile of wood appears to be the remains of an old water tower. It was erected in World War II. The Japanese frequently strafed the tower—thinking they had pulled a sneaky trick on the Americans and deprived them of water. However, what was really in the tower was not water . . . but the island's radar equipment.

Since radar was one of our secret weapons, it was camouflaged to prevent the enemy from discovering we were plotting ship and plane movements. If the Japanese had known what was actually located in the tower, they would have undoubtedly launched a full-scale attack to destroy it. Much of the original radar equipment remained in the tower up until a few years ago.

The first group in the present contingent arrived on Amchitka late in the fall of 1966. Its members had their offices in their rooms until the summer of 1967, when there was a large building program for offices, camps and support structures. A contract for a drilling program—to include both exploratory and event emplacement holes—was awarded in March, 1967. Today, there are more than 500 men (no women) assigned to the island.

There are two federal laws which are extremely important to the residents and visitors of Amchitka—the Antiquities Act and the Bald Eagle Act.

The Antiquities Act prohibits tampering with original native artifacts which may be uncovered, or removing them from their natural resting place. In the event they are found, the representative from the U.S. Interior Department or the AEC's staff archaeologist, assigned to Amchitka, should be notified.

The Bald Eagle Act outlaws the possession of any eagle, dead or alive, or any part of it. To pre-

vent the killing of eagles for various Indian religious ceremonies in which the skull, talons and feathers are used, the Interior Department collects these parts, from eagles that are found dead, and distributes them among the tribes.

Equipped with this background material, let's take a trip to Amchitka.

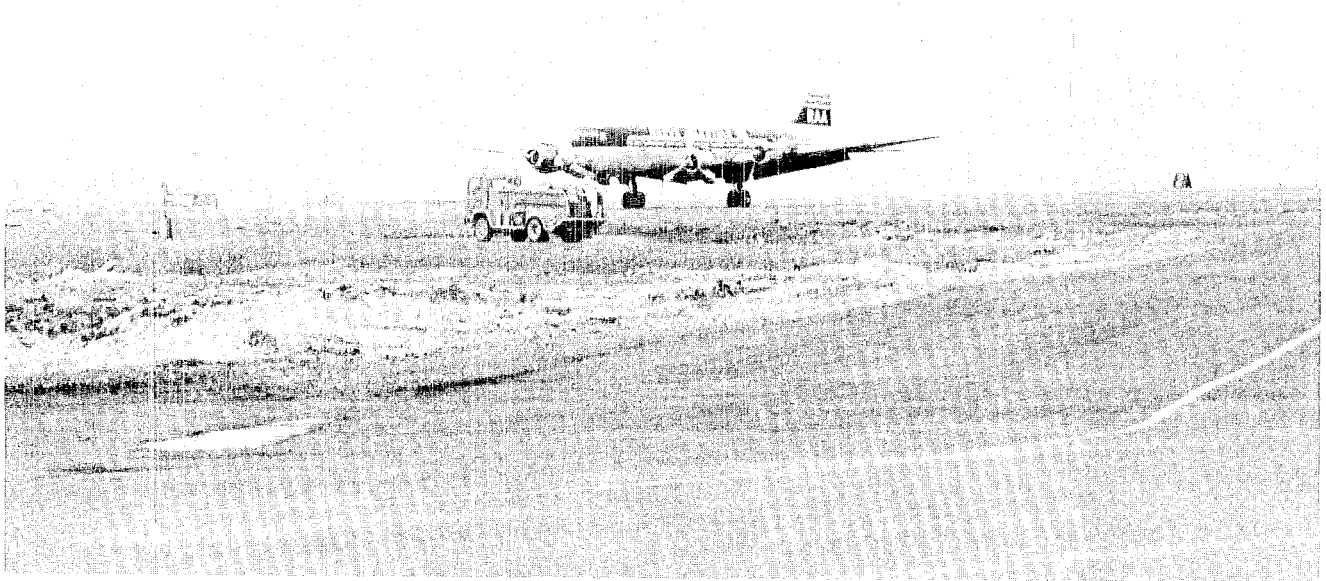
After the normal arrangements are made through the travel office and J-1, LASL personnel are issued foul-weather gear. This consists of a parka, rain pants, boots, and a rain jacket. Then the Amchitka bound traveller goes via commercial aircraft to Seattle. Depending on the day he arrives in Seattle, the traveller may be able to catch a twice-weekly charter flight, which makes a stop at Anchorage, Alaska, before flying on to Amchitka. Otherwise, he can take another commercial flight to Anchorage, and from there, board a Reeve Aleutian Airways, Inc., plane to the island. Reeve flies regularly scheduled flights to Amchitka via Cold Harbor and Adak. It has been using DC-6B aircraft for this flight, but recently obtained an Electra which will also be used in the future.

There are two runways on Amchitka, although only one—Baker runway—is normally used. Baker is 9,150 feet long and has been rebuilt to accommodate modern aircraft. Additions include lights for night landings and a sequenced-flashing-lights landing system. The second runway, Charlie, is used only in case of a severe emergency, such as high winds, because only 3,000 feet of the 6,000-foot total is usable. Charlie was used only a couple of times last year. A third runway, Fox—like the other two initially built in World War II—is completely unusable because it was deliberately torn up after the war and is now partially under water.

The Amchitka airport is also equipped with ground controlled approach radar which is certified and accepted by the Federal Aviation Agency. In fact, the FAA recently appraised Amchitka as having "the most modern civilian airfield in Alaska today."

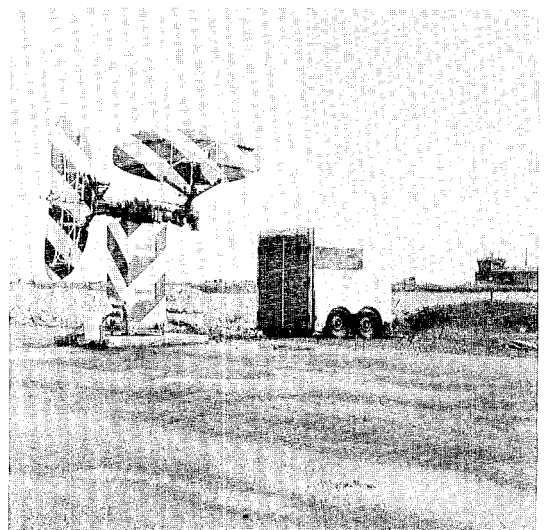
The facilities on the island—coupled with the high degree of skill of the Reeve pilots—results in a flight seldom, if ever, being aborted. Frequent travellers on Reeve Aleutian Airways are high in their praise of the ability of Reeve pilots who fly in some of the worst weather in the world. Reeve was founded by Bob Reeve, one of the original "Alaskan Bush Pilots," who is still an active flyer today.

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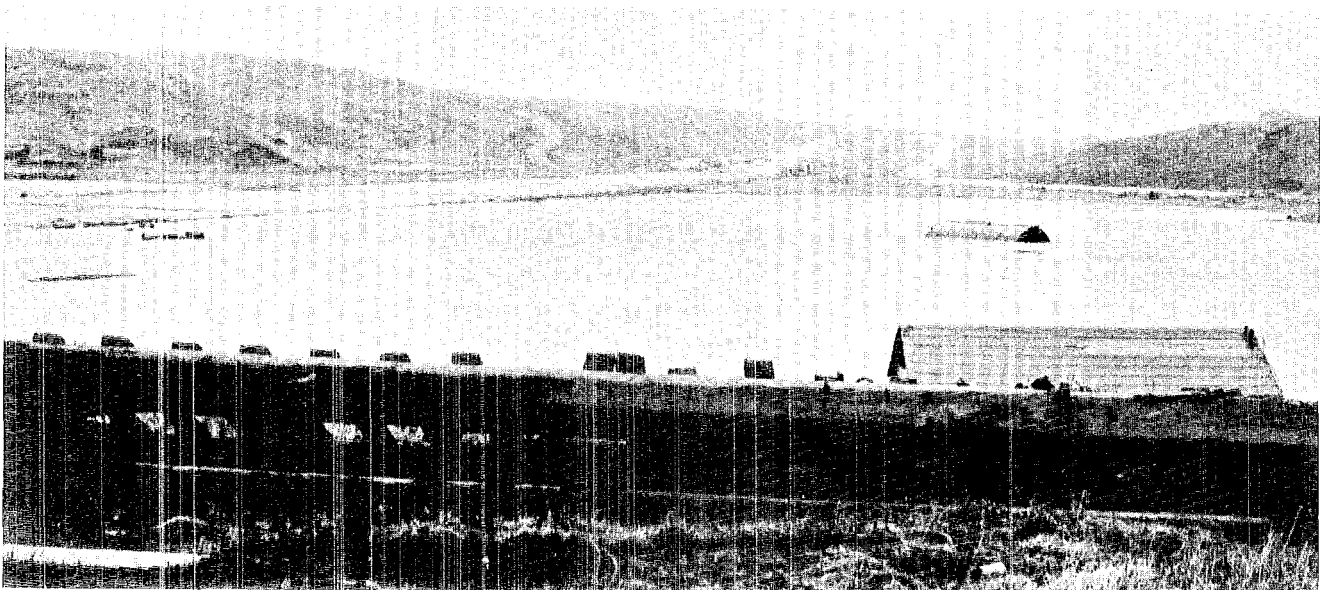


Reeve Aleutian Airways provides regularly scheduled air service to the island from Anchorage.

The ground controlled approach radar equipment on Anchitka, near the terminal building, is among the best in the country.



Fox runway, constructed during World War II, is now partially under water.



... Amchitka

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By the time the traveller reaches Amchitka from Los Alamos, he has crossed four time-zone boundaries, so the time on the island is four hours earlier than in Los Alamos. Amchitka is actually west of the International Date Line, but an artificial jog in the line keeps all the Aleutian Islands on the same time—one hour earlier than the Alaska mainland.

All passengers terminating their trip on Amchitka report to a desk in the terminal building where they are "checked in" and assigned a room. Only official visitors who have made advance arrangements are permitted to deplane. The casual tourist or visitor is not allowed.

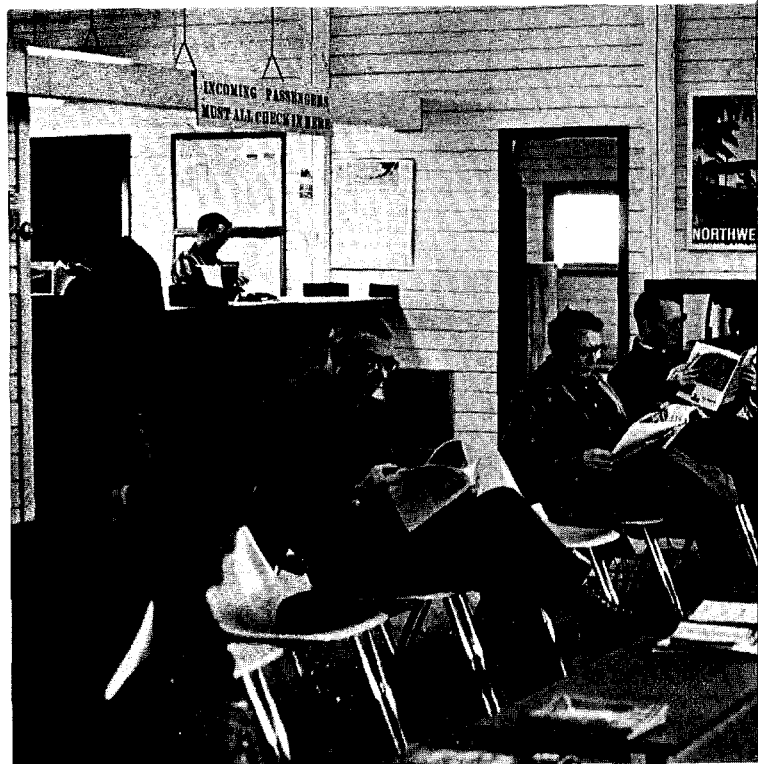
Most of the cargo for Amchitka is delivered periodically by barges from Seattle and occasionally by aircraft. The trip by barge takes two to three weeks in the summer and up to five weeks in the winter. The barges follow the coastline on their journey.

There are a number of organizations—both governmental and private—that the Amchitka traveller will come in contact with while working on the island. (The main administrative office building is located adjacent to the main camp and is known as the "White House." Whether it was given this name because it is painted white—but so are most of the other buildings in the main camp—or because it is on a small rise; or because it is the place from whence the orders are issued; no one appears to know).

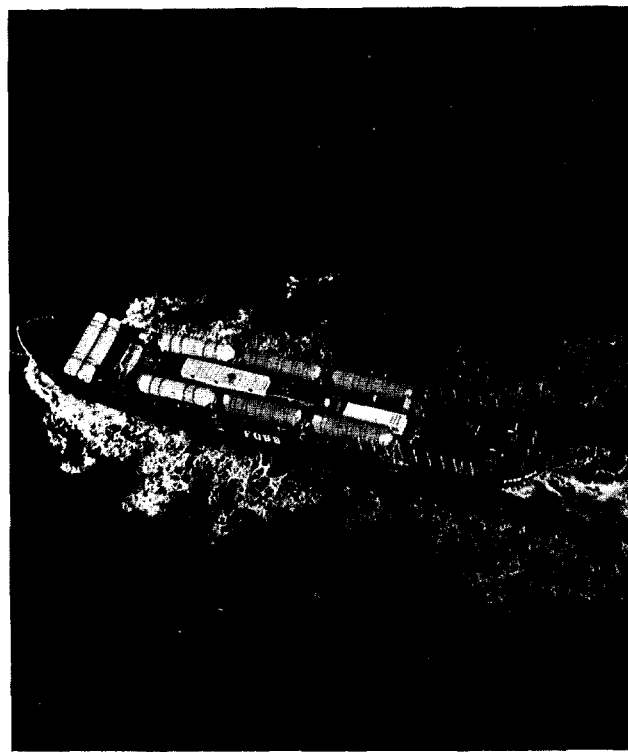
The Atomic Energy Commission, as overall manager of the supplemental test site, oversees both drilling and support operations. Ted Toren is the AEC site manager and Joe Brown is his alternate. The two men switch duty assignments between Amchitka and Las Vegas, spending four weeks on the island and four weeks in Nevada. Nearly all the groups on the island have some type of rotation plan, with the length varying from group to group.

In addition to the AEC, other governmental agencies with representatives on Amchitka include the Corps of Engineers, the Interior Department, Fish and Wildlife Service and the U.S. Geological Survey. The state of Alaska is also represented by Alaska State Troopers.

Holmes & Narver, Inc., is the site management group and a prime contractor to the AEC for architectural, engineering and management serv-

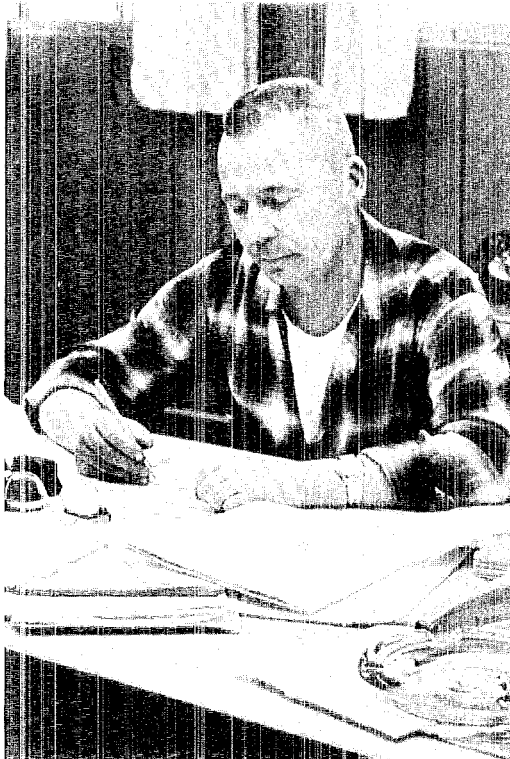


The terminal building on Amchitka is where a person checks in and is assigned a room.

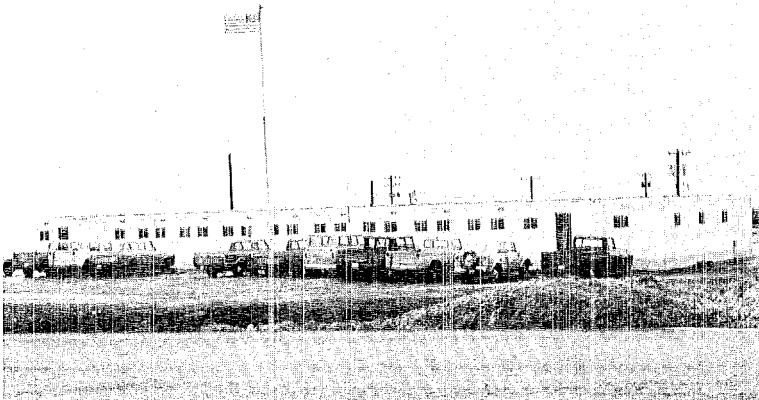


Most cargo for Amchitka is delivered by barge from Seattle.

AMCHITKA
ALASKA
ALUTIIAN ISLANDS
NATIONAL
WILDLIFE REFUGE

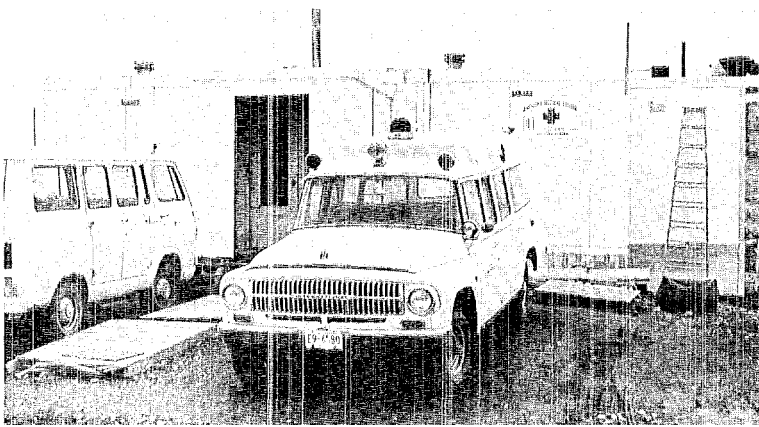


Ted Toren is the AEC site manager.



The "White House" is administrative headquarters for the various agencies and contractors on the island.

The Amchitka Medical Center is operated by Eberline Instruments Inc. for the AEC.



ices. H&N is responsible for the logistics, supply, housing, feeding and overall site management, maintenance and operation. All government equipment on the island, including vehicles and sno-tracs, is under H&N control and dispatch. Universal Services, Inc., is a sub-contractor to H&N for a number of services including a fire department, warehouse, craftsmen and cafeterias.

Fenix & Scisson supervises all drilling operations and oversees several drilling companies; Chris Berg Construction is a subcontractor to the Corps of Engineers for road construction to the northwest end of the island and for a camp and control point at the northwest end; and Eberline Instruments, Inc., maintains the medical facilities.

There is a four-bed hospital on Amchitka. Its patients, however, do not remain there long. If they are very sick or in need of intensive care, they are taken off the island to other hospital facilities. An interesting sidelight is the fact there has not been a fatal accident on Amchitka during the time of current occupancy.

The "User" organizations—those groups for whom the facilities are actually being built—include IASI and the Lawrence Radiation Laboratory.

Most of the employees on Amchitka—government and contractor—work a nine-hour day, six-day week. Others work 7 days for required support. This work schedule is necessary to complete the drilling and road-building schedules plus the erection of a 200-man base camp and control point area at the northwest end of the island. (The main camp airport and dock facilities are at the southeast end).

"The drilling and construction programs are proceeding on schedule," AEC Site Manager Ted Toren says, "and should be ready on time."

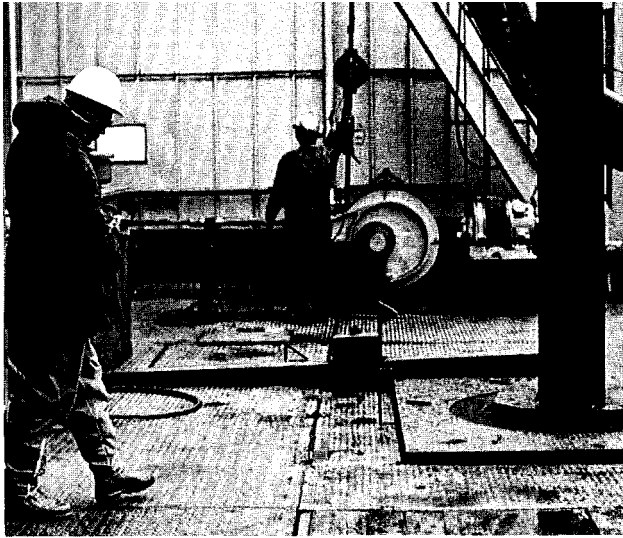
The "Top Camp"—about 30 miles from the main camp—was established in the summer of 1967 to support survey crews, equipment operators and other people working in the area. Only a few people are currently using this facility; but it is capable of handling about 30 if necessary.

Future construction projects include a IASI/LRL compound, improvements to the dock facilities in Constantine Harbor, and the building of additional support facilities as required.

An estimated \$55 million had been spent on the rehabilitation of Amchitka Island by the end of Fiscal Year 1968.

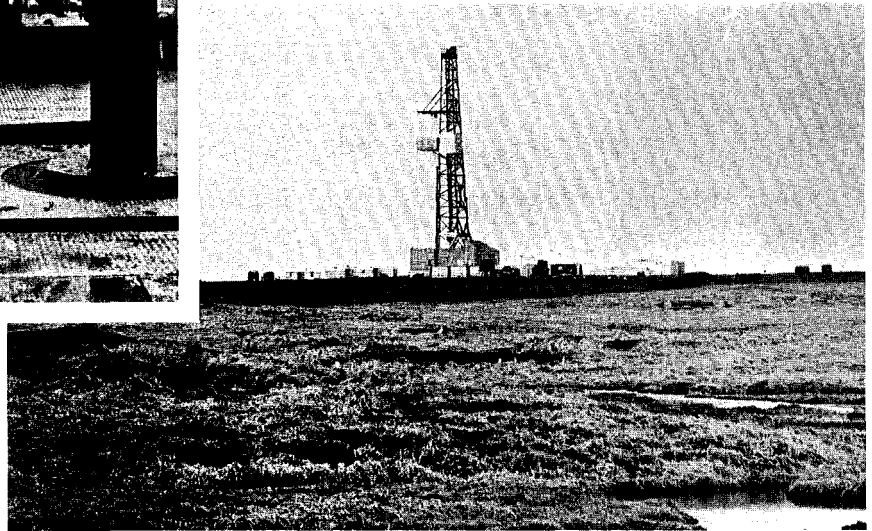
Members of the permanent party on the island say one of the first questions they are asked by

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Bob Thorn, T-2 group leader, inspects one of the drilling sites on the island.

Drilling rigs are visible for miles due to the relatively flat terrain on much of the island.



Improvement of the docking facilities is included in the overall rehabilitation of Amchitka.

Covered walkways, photographed while still under construction, connect the housing units with the cafeteria, Rec Hall, and the "Rat Island Roost."



... Amchitka

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newcomers is: "But what is there to do here on Sundays or when we aren't working?"

Actually, there are recreational offerings for just about everyone.

Fishing is permitted and is one of the most popular sports during the summer months. Fishing gear can be checked out at no charge, and with the proper license, both fresh and saltwater fish are available. A fishing license costs \$10 for a non-

resident of Alaska, and must be procured at Anchorage as they are not available on the island. The favorite freshwater catch in the island's lakes is Dolly Varden trout, while halibut and salmon are sought in the ocean. Knowledgeable anglers report the sports fishing is most successful from May through September.

Another favorite pastime is beachcombing. One expert estimates that in "good" weather half of the non-working population will be on the beaches looking for souvenirs. Primarily, they are searching for Japanese glass fishnet floats that break away and float on the Japanese current to the island. Some very large ones have been found although most are relatively small. Occasionally, fish nets from Japan are also found washed up on the beach.

Feature movies—some of which are "just-released films"—are shown every day at 9 a.m. and 7:30 p.m. The two showings are to permit workers from all shifts to attend.

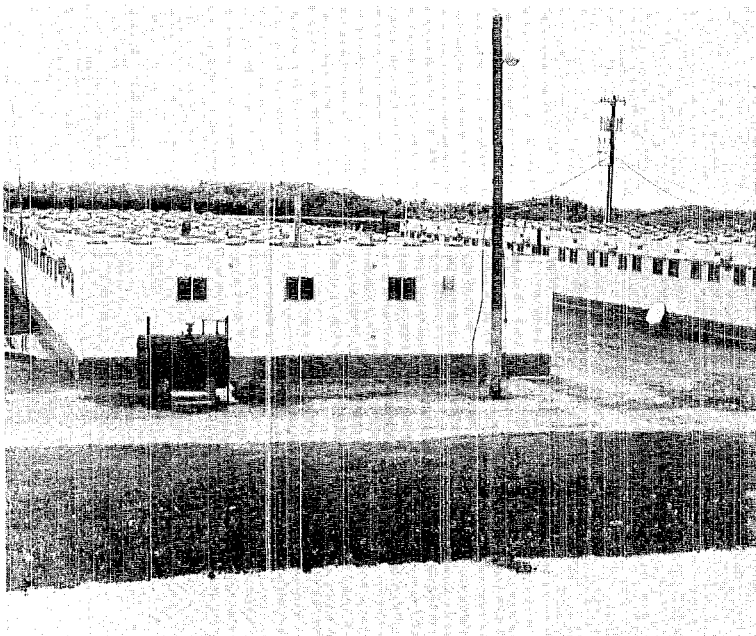
One of the buildings in the main camp is the "Rec Hall" in which pool, table tennis, checkers, chess, cribbage, dominoes and other recreational activities are available. Tournaments are held frequently for most of these games. The Rec Hall also houses the PX where personal effects, including cards, gifts, and minor clothing can be purchased.

Other facilities include a library, photo club, and a bar known as the "Rat Island Roost." There is also a package liquor store, a barber shop, and an official U.S. post office. Mail boxes are available for members of the permanent party. However, if a visitor is going to be on the island for less than 30 days, it is suggested that he use General Delivery, Amchitka, Alaska, as an address.

In order to keep the island resident up-to-date, Holmes & Narver publishes a bi-weekly newspaper called "The Am-Chit-Sheet." This newspaper carries a limited amount of world news, a theater schedule, local items of interest about the island and the residents, and a cafeteria menu.

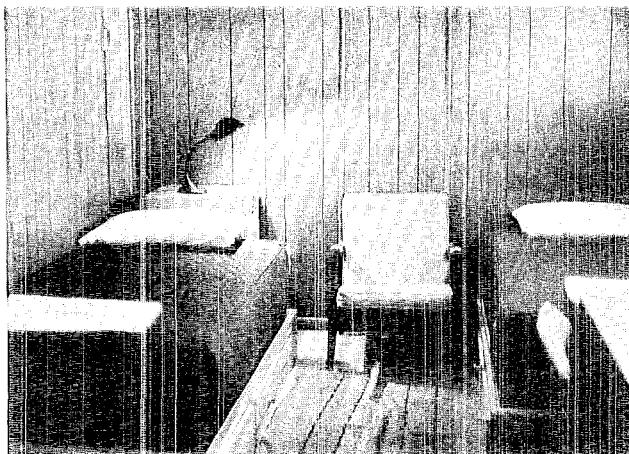
This is probably a good time to insert a few words about the cafeteria which, like other H&N-operated cafeterias, is excellent. The menu is varied—with as many items as normally listed on the menu of any good, small, restaurant. The quality of the food is very good and there is no limit on quantity. It is self-service and satisfies those with a small appetite who want only a sandwich as well as those desiring the full course of soup, steak, potatoes, vegetables, salads, and dessert.

continued on next page



The housing units are simple, but adequate.

Two persons are assigned to each dormitory room. While not luxurious, the rooms are comfortable.





... Amchitka

continued from preceding page

In addition to the food, another great morale booster on Amchitka is the Ham Radio Club whereby the residents can keep in touch with their families.

There is a radio-telephone patch for official calls only. It is possible to call LASL this way by calling Mercury, Nevada, and having the call placed on the tie-line. However, this is for official calls only and cannot be used for the "Happy Birthday" type of message.

Employees on the island are not allowed to bring their personal ham radio equipment, so the AEC furnishes a sufficient amount of equipment to outfit a radio shack—call letters KL76FN.

There are five licensed hams on the island who have volunteered to handle personal calls outside of normal working hours. The usual method is to contact another ham in the "lower 48" who has a radio with strong power, and is willing to spend an hour or so handling these calls. A station-to-station collect call is then made from this ham outlet to the employee's home.

Cast under cloudy skies and stormy weather most of the time, the Amchitka coastline while scenic, is also rugged. During leisure hours, many of the workers on the island walk the beaches looking for souvenirs that are occasionally washed in by the Japanese current.

More than 100 calls are handled each week, at an average of five minutes per call.

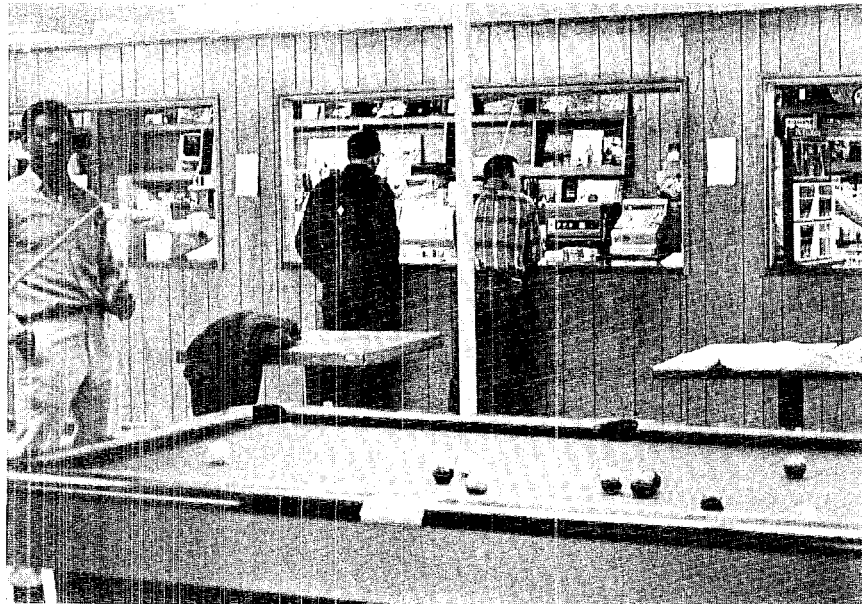
An unusual occurrence happened recently when one of the ham operators on Amchitka contacted the Howard Hughes Employees Ham Club in Fullerton, Calif. This club handled more than 15 of these personal calls at no charge! The California club told the Amchitka operator that Mr. Hughes would pick up the tab for the telephone charges. It was later discovered that the California club provides this service mainly for military personnel stationed in out-of-the-way places, but extended it to Amchitka on this occasion.

A situation that seems strange to the security-oriented LASL-types is the lack of classification or security guards.

There is, at the present time, no classification problem, and none of the employees are required to be AEC "Q" cleared to work on Amchitka. A few of the people are Q-cleared by virtue of working for the AEC or its contractors. However, in the

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The Rec Hall—which includes a PX—is one of the favorite gathering places after working hours.



The library receives periodicals and newspapers from many areas. It has a good supply of pocket books too.



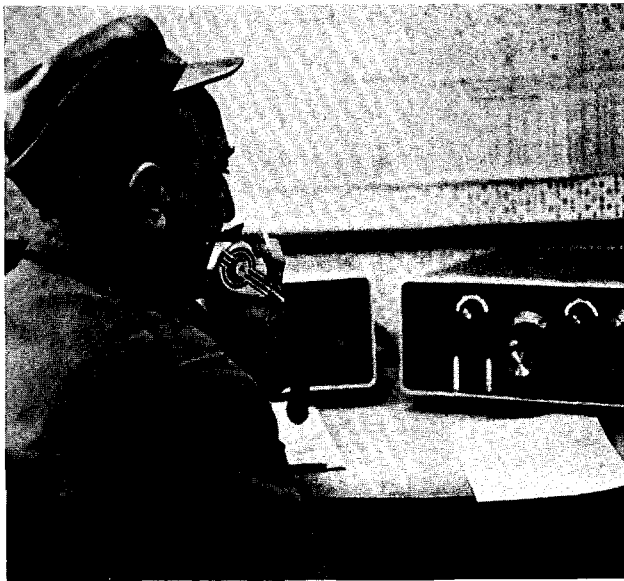
The Rat Island Roost does a good deal of business between the end of working hours and chow call.

The mess hall features self-service and good food.



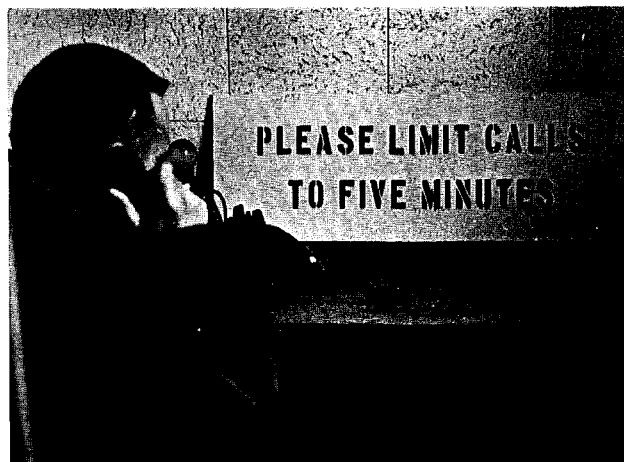
Some island workers keep in shape by working out at the Health Spa, located in an old quonset building.





Al Rothwell, Holmes & Narver, is one of a small group of enthusiastic ham radio operators who places personal calls for island workers on the radio phone-patch network.

Personal calls are handled via a radio phone-patch to the "lower 48."



... Amchitka

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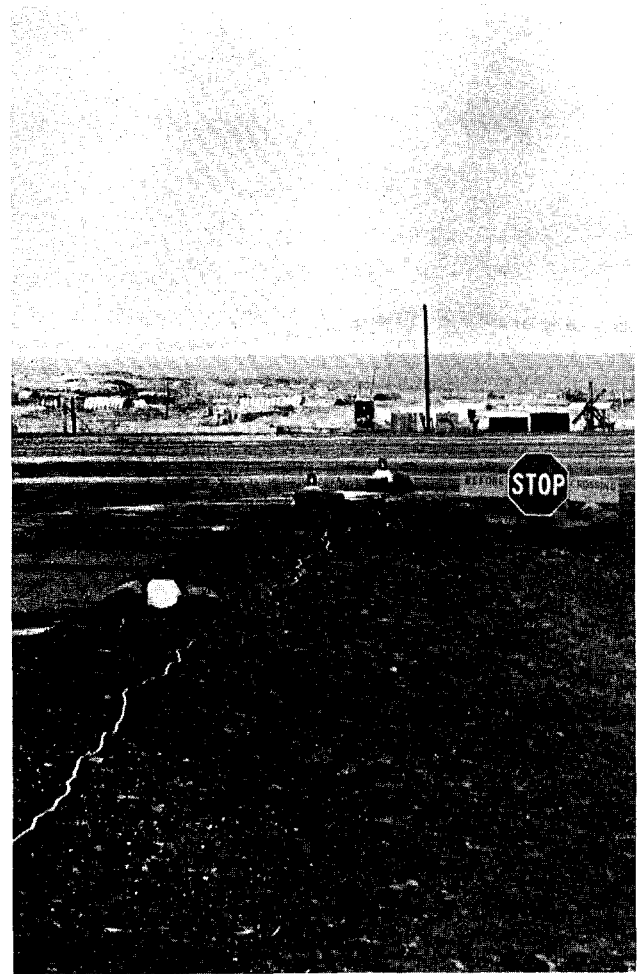
future all employees will be cleared—either "Q" or "L." Current employees on the island are in the process of completing their Personnel Security Questionnaires and having background checks made. Officials estimated that all will be cleared by this Fall.

At the present time, personal cameras are allowed; there is no restriction on photography. This could change when security measures go into effect.

Hand-in-hand with security is law enforcement which is handled by Alaska State Troopers. They conduct patrols and issue warnings and citations for infractions.

Traffic laws on Amchitka are relatively few. The

The runway can be crossed at one point only. It is here that the island's only stop signs are located.



most important one probably concerns vehicles crossing the runway. There is only one authorized crossing and it is equipped with the island's only stop signs. This crossing is blocked by vehicles shortly before the scheduled arrival of any aircraft and remains blocked until the plane takes off again.

Speed limits on the island are 15 mph in the camp area, and, for all other areas, 35 mph (day) and 30 mph (night).

Well, there it is . . . a "brief" story on Amchitka and what can be expected.

It's probably more about elephants than you wanted to know.



Going, Going, Almost Gone

When the current sale of government-owned apartments is over, the Department of Housing and Urban Development may not have much real estate left to sell in Los Alamos.

Three years ago the Department (HUD) had more to sell than most real estate agencies. It was authorized by executive order to dispose of 2,015 properties, mostly housing, with an appraised value of approximately \$27 million.

Since that time, however, HUD has been selling this government-built town, piece by piece, to the citizenry and its inventory has been drastically depleted. Excluding the current apartment sale, 1,861 properties appraised at about \$20 million, have been sold at the time of this writing.

In terms of value, the largest of the 154 unsold properties is the Community Center which carries a price tag of almost \$1 million.

Twenty-three are miscellaneous pieces of real

estate appraised at approximately \$1 million. Four of these are under contract of sale; 13 are scheduled to be sold to the highest bidder Sept. 16, and six have not yet been offered for sale.

The other 130 are apartment properties appraised at more than \$4 million, of which five have been sold.

Ninety-four of the apartment properties are quadruplexes located in the north communities. Their appraised values range from \$20,000 to \$26,500.

The others are multi-family properties—so called because they consist of eight or more units. Four are in the north communities and 27 others are located in the eastern areas.

Fourteen of the 31 multi-family sites are eight-plexes that range in value from \$21,000 to \$40,000.

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Ninety-nine of the 130 apartment properties being sold are quadruplexes.



Six 20-unit Gold Street apartment complexes are up for sale. Each complex is made up of a 12-unit building (left) and two four-unit structures like the one shown at right.

... Almost Gone

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Another one is a 16-unit complex on Gold Street made up of two eightplexes.

Six 20-unit Gold Street apartment complexes have been appraised at \$70,000 each. Each one is made up of a 12-unit building and two four-unit structures.

An additional 20-unit complex, consisting of two 10-unit Chapel apartment buildings north of the Recreation Hall, is valued at \$81,150.

There are also two 24-unit efficiency apartments up for sale. One is appraised at \$48,450 and the other \$53,000.

Another five are 48-unit properties valued from \$75,000 to \$110,000. Four of them consist of two 24-unit buildings, and the other is a single 48-unit structure. All of them contain efficiency type apartments.

The largest appraisal on any of the properties is a 72-unit complex of Chapel apartments. The units are contained in seven buildings valued at \$296,000.

The largest number of units assembled in one package are three concrete buildings near the Community Center containing 84 efficiency apartments. Two of the buildings have 24 units each and the third has 36 units. This lot has been appraised at \$188,000.

The reason that some properties are made up of complexes of two or more buildings is because they have facilities in common which cannot be functionally divided, such as sidewalks, utilities, parking lots and lawn areas.

Not everyone can buy an apartment property. Those who are eligible were assigned a priority by the Atomic Energy Commission before the sale began. More specifically, if a person was connected with the Los Alamos Scientific Laboratory by occupation or was living in a saleable apartment on April 25 of this year, he was said to have a priority interest in that unit.

Under the rules of the sale, however, having a priority interest is not the key to owning an apartment, for HUD cannot sell them individually, but rather, must sell whole properties.

Consequently, a person with a priority interest had to either join with others or acquire the interests of those who did not want to exercise their priorities.

By either method, 60 per cent of the interests of any property had to be obtained before it was recognized as one that could be sold. By apply-

ing to the AEC, an individual or an entity of several individuals, representing the required number of units, then became known as the priority holder.

At present, most of the priority holders have either made or are making arrangements for financing. One of two choices is through commercial loan institutions. The other one is to request HUD to finance the property.

To priority holders the purchase price is 25 per cent less than the appraised values. These values vary however, even among properties with a like number of apartment units. The reason, Daryl Mabee, HUD field director in Los Alamos said, is that there are differences in size and construction. A more detailed look at these factors shows that the apartments in one quadruplex may have four bedrooms, while the units in another may have three or two; one building may contain 24-units, but so may a complex of buildings; there are various types of efficiency apartments; and some apartments have more floor area than others.

Priority holders have until Oct. 16 to apply for purchase. As of Aug. 20 there were still no priority holders for 13 of the 125 saleable properties. These were six quadruplexes and seven multi-family properties. Mabee said that priority holder status was not granted on them, during the period when applications were made, because no one applied.

He noted that 75 priority holders have indicated their intentions to purchase and another 10 are expected to do so soon. The majority of them, at this point in the big selling program, are entities of persons with priority interests. Evidently, for its size, Los Alamos is destined to have an above average number of condominiums.

The apartments that are not sold on a first priority basis will be offered to second priority holders "after the workload of the current sale is out of the way," Mabee said. When the second offering is made, however, the individual will not be able to buy an apartment property by acquiring the interests of others. It will have to be purchased by an entity, of which one member must be an occupant.

If any of the properties are left over after the second sale, they will be sold to the general public on a competitive bid basis.

When the apartments, Community Center and other miscellaneous sites are sold, Mabee said, all of that type of real estate normally owned by the people of any typical American community, will be in the hands of the people of Los Alamos. ❀

short subjects

Four P division scientists attended the Third Conference on Plasma Physics and Controlled Nuclear Fusion Research in the Soviet Union last month.

They were **Richard F. Taschek**, division leader; **James L. Tuck**, associate division leader; **Joseph W. Mather**, P-7 group leader; and **Fred I. Ribe**, P-15 group leader.

The conference, sponsored by the International Atomic Energy Agency, was held at the Institute of Nuclear Physics in Novosibirsk, and was represented by scientists from 15 countries. Following the event, participants had the opportunity to visit Soviet scientific facilities in Leningrad, Moscow, Kharkov and Sukhumi, and made stops in other foreign countries before returning to Los Alamos.



Russell W. Johnson, SP-DO contract administrator, has retired from service at the Los Alamos Scientific Laboratory.

Johnson had been employed by the University of California for 25 years. He was among those receiving the quarter-century service pin at LASL in July. His retirement became effective in August.

Johnson was first employed by the University in March, 1943, as a buyer in the Los Angeles Purchasing Office. He was later promoted to office manager and then assistant purchasing agent. The Los Angeles office was closed, and in Oct., 1965, he came to the Laboratory as contract administrator.

Future plans of Johnson and his wife Bonita include travel in the United States and foreign countries. Current plans include a visit to Honolulu and Acapulco and, perhaps later, Europe.



George Gamow, a former consultant and frequent visitor at the Los Alamos Scientific Laboratory, died last month in Boulder, Colo., at the age of 64.

Gamow had been a professor of theoretical physics at the University of Colorado since 1956.

He was a member of the National Academy of Sciences, a Fellow of the American Physical Society, a Fellow of the Geophysical Union, a member of the Royal Danish Academy and a member of the International Academy of Astronautics. Gamow was also a pioneer in nuclear physics and

made significant contributions in many fields of science.



Raemer E. Schreiber, technical associate director of the Los Alamos Scientific Laboratory, has accepted an invitation of the British Nuclear Energy Society to speak on "Nuclear Propulsion in Space" at Westminster, London, England, Oct. 2.

The special lecture is slated for 6 p.m. at the Institution of Civil Engineering. Admission is by ticket only, free on application to the British Society.

Schreiber was one of the leaders in America's effort to develop a nuclear rocket reactor—Project Rover—from 1955 to 1962, and is immediate past-president of the American Nuclear Society.



Three more Los Alamos Scientific Laboratory personnel have been granted professional research and teaching leave.

Walton P. Ellis, CMB-8, will be doing research in the field of electron defractions at the Materials Science Department of the University of Virginia, Charlottesville, for one year, effective last month.

William M. Olson, CMF-5, will be doing research in high temperature chemistry at the European Institute for Transuranium Elements in Karlsruhe, Germany, for one year beginning Sept. 1.

Claude C. Herrick, CMF-13, has been granted leave to investigate the self-diffusion coefficients of oxygen in praseodymium oxides of variable valence as a function of temperature and pressure, at Arizona State University, Tempe, for one year beginning Sept. 1.



Lt. General **Harold C. Donnelly** (USAF retired) has assumed the duties of manager for the Atomic Energy Commission's Albuquerque Operations. He succeeds **Lawrence P. Gise** who retired April 30 after almost 33 years of service to the Federal Government.

Donnelly is no stranger to Albuquerque. While with the Air Force he was stationed there on at least one occasion. In July, 1960, he assumed duties as Commander, Field Command, Defense Atomic Support Agency, at Sandia Base. He left Field Command in June, 1963, for assignment as Assistant Deputy Chief of Staff, Research and Development, USAF headquarters. Before becoming manager of the AEC's Albuquerque Operations, Donnelly was director of the Defense Atomic Support Agency in Washington, D.C., a position he assumed in January of 1964.

new hires

Accounting Department

Dorothy Louise Foyt, Los Alamos, AO-DO

C Division

Lois Ann David, San Jose, Calif., C-1
Ronald K. Lohrding, Coldwater, Kansas, C-5

CMB Division

Elizabeth A. Asprey, Espanola, CMB-8
Michael R. Conner, Ithaca, N.Y., CMB-11

CMF Division

Nicholas J. Matwiyoff, Rogers City, Mich., CMF-4

D Division

Margaret K. Newsom, Los Alamos, D-8
Eddie E. Scott, Sheridan, Wyoming, D-1
Edwina L. Shelton, Los Alamos, D-2

Engineering Department

Lara H. Baker, Jr., Raton, Eng-DO
Gary W. Bequette, Los Alamos, Eng-5 (Casual)
Lucy C. Tabor, Espanola, Eng-1

GMX Division

David E. Christiansen, Salt Lake City, Utah, GMX-3
Paul S. Lucario, Jr., Laguna, GMX-3
Daniel W. Nutuschil, Los Alamos, GMX-3
James T. Nickles, Farmington, GMX-11
Leonard A. Roybal, Santa Fe, GMX-3
Wilbur W. Sickles, Jr., Aurora, Ill., GMX-11
Thomas G. Szalay, Los Alamos, GMX-3 (Rehire)

Health Division

Thesa M. Britt, Las Vegas, H-1
John W. Healy, Schenectady, N.Y., H-1
Robert W. Martin, Hominy, Okla., H-1

J Division

Franklin E. Gray, Fullerton, Calif., J-10
Joan F. Johnson, Los Alamos, J-15
Joe L. Billman, Idaho Falls, Idaho, J-6 (NRDS)

Mail and Records

Arturo W. Pacheco, Penasco

N Division

Thomas H. Whittlesey, Sunnyvale, Calif., N-6

P Division

Sibley C. Burnett, Oak Ridge, Tenn., P-DOR (Postdoctoral)
Jeffery P. Freidgerg, Brooklyn, N.Y., P-18
Andrus Niiler, Pittsburgh, Pa., P-DOR (Postdoctoral)

Shop Department

Robert D. Clark, Kenton, Ohio, SD-1
Douglas H. Kuhl, Albuquerque, SD-1

T Division

Donald R. Harris, Jr., Johnstown, Pa., T-DOT
Kaye D. Lathrop, Macomb, Ill., T-1 (Rehire)
Larry C. Madsen, Wakonda, S.D., T-5
Nanette K. Moore, Los Alamos, T-2

W Division

Charles B. Banks, Jr., Kansas City, Kansas, W-1
Richard O. Niethammer, Richland, Wash., W-1 (Rehire)

what's doing

OUTDOOR ASSOCIATION: No Charge; open to the public. Contact leader for information about specific hikes.

Saturday and Sunday, Sept. 7 and 8, hike from Midnight Mining Area through Cabresto Canyon, Dibbon Hagar, leader, 2-6209.

Thursday, Sept. 5, Evening hike, Ken Ewing, leader, 8-4488.

Wednesday, Sept. 11, Picnic meeting at Bandelier at 6 p.m.

Thursday, Sept. 19, Evening hike, Ed Kmetko, leader, 2-3173.

Sunday, Sept. 22, Lake Peak, Dorothy Hoard, leader, 672-3356.

Thursday, Sept. 26, Evening hike, Herb Vogel, leader, 672-9832.

Saturday and Sunday, Sept. 28 and 29, Pecos/Santa Barbara Campground, contact Bob Skaggs, 836 Truman N.E., Albuquerque.

MESA PUBLIC LIBRARY EXHIBITS: Sept. 5

through Oct. 1—Miniatures by Paralee Lester.

NEWCOMERS CLUB: Meeting Wednesday, Sept. 25, 7:30 p.m., Aspen School. Skit Night. For further information call Mrs. Harold Faire, 672-3733.

LOS ALAMOS CHORAL SOCIETY: Every Tuesday evening at 7:30 p.m. beginning Sept. 3, Lodge Main Dining Room. All interested persons are invited to beginning rehearsals.

LITTLE THEATER: First production of the season, "The Owl and the Pussycat," by Bill Manhoff, Friday and Saturday, October 4 and 5, 8:30 p.m., Los Alamos Civic Auditorium. Cast includes Micki Dick and Hans Ruppel. Brandy Steger, director; Duane Drake, assistant to the director. Season tickets (\$5) and single admission (\$2) available at the box office of the auditorium. Season tickets also available from Audrey Goldblatt, 2-2110.

H. Ettinger and J. DeField Present Papers At United Nations Headquarters in N. Y.

Two scientists from the Los Alamos Scientific Laboratory presented technical papers at a special symposium at United Nations Headquarters in New York City Aug. 26-30.

The five-day symposium was the first to be sponsored by the International Atomic Energy Agency at the United Nations Headquarters and the fourth to be held in the United States.

Harry J. Ettinger and James D. DeField, both LL-5, were among 150 scientists from 11 countries at the meeting. Other countries represented were

Canada, England, France, Federal Republic of Germany, India, Japan, Korea, Mexico, Sweden and Yugoslavia.

The purpose of the meeting was to discuss operating and developmental experience in the treatment of airborne radioactive wastes.

The title of Ettinger's paper was "Efficiency Testing the Air Cleaning System for a High Temperature Reactor." It was co-authored by DeField, who presented a paper on "Testing HEPA Filters for Use in a High Noise Level Environment."

The Technical Side

Presentation at American Physical Society Meeting, Los Alamos, June 19:

"Two-Dimensional Numerical Simulation of Collisionless Shocks" by C. R. Shonk, J-10

Presentation at International Symposium on Nuclear Structure, International Union of Pure and Applied Physics and International Atomic Energy Agency, Dubna, USSR, July 4-11:

"Estimates of the Spontaneous-Fission Half Lives of $Z = 114$ Nuclei" by S. G. Nilsson (University of California at Berkeley) and J. R. Nix, T-9

"State Mixing in ^{165}Ho " by M. E. Bunker, G. Berzins, and J. W. Starner, all P-2

"Recent Thermal Neutron Capture Work at LASL" by H. T. Motz, P-DO

Presentation at Second International Symposium on Nuclear Magnetic Resonances, Sao Paulo, Brazil, July 8-11:

"Nuclear Magnetic Relaxation in Aqueous Thiocyanate Cobalt Complexes" by A. H. Zeltmann and L. O. Morgan, both CMF-2

Presentation at Colloquium, Sandia Corporation, Albuquerque, July 10:

"The Los Alamos Physics Division Program" by R. F. Taschek

Presentation at Meeting of the New Mexico Society of Hospital Pharmacists, Bernalillo County Indian Hospital, Albuquerque, July 10:

"Biochemical Preparations for Mitosis" by D. F. Petersen, H-4 (invited talk)

Presentation at American Nuclear Society Annual Meeting, Toronto, Canada, July 10-13:

"Recent Progress in the Rover Program" by G. A. Graves, N-2, F. P. Durham, N-DO, and W. H. Arnold, Westinghouse

Presentation at 12th International Symposium on Combustion, The Combustion Institute, Poitiers, France, July 14-20:

"Chain Branching and Initiation Rates Measured by Spatially Integrated Light Emission During Reflected Shock Wave Ignition" by G. L. Schott, GMX-7

"One and Two Dimensional Flow Calculations of the Reaction Zones

of Ideal Gas, Nitromethane and Liquid TNT Detonations" by C. L. Mader, T-5

"Theory of Detonation Stability" by J. J. Erpenbeck, GMX-10

Presentation at American Astronautical Society Symposium, Denver, Colo., July 15-16:

"Vela Satellite Particle Observations at 18 Earth Radii" by M. D. Montgomery, P-4

Presentation at Gordon Conference on Fluorine Chemistry, Tilton, N.H., July 15-19:

"Molar Refractivity as a Diagnostic Tool for Composition of d- and f-Transition Element Fluoride Complexes" by R. A. Penneman, CMF-4

Presentation to the Fission Product Inhalation Study Group at Lovelace Foundation, Albuquerque, July 17:

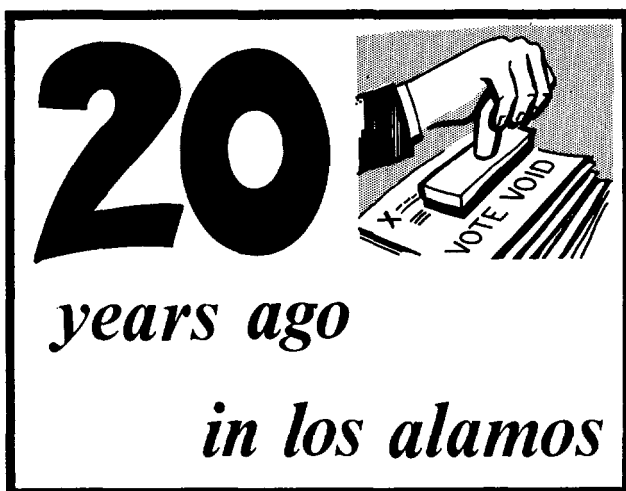
"Morphogenesis of Microlesions in Rat Lungs from Intravenously Injected $^{238}\text{PuO}_2$ Microspheres" by C. R. Richmond, H-4 (invited talk)

Presentation at Pion Committee Review Meeting, AEC, Washington, D.C., July 23:

"A Design Study of a π -Beam for Biomedical Applications at LAMPF" by H. A. Thiessen, MP-4

Presentation at Biology Seminar, Battelle Northwest, Richland, Wash., July 23:

"Polynucleotide Synthesis" by D. G. Ott, H-4 (invited talk)



Culled from the 1948 files of the Santa Fe New Mexican
by Robert Porton

Court Voids Los Alamos Primary Vote

The New Mexico Supreme Court today disqualified all votes cast in Los Alamos in the recent primary election. The court held that some residents of the AEC installation are illegal voters. The disqualification came on the court's ruling that all polling places for the election were on lands acquired by condemnation. Such lands, it said, are not a part of the state for voting purposes. Probably as high as 85% of this community's voters have been disfranchised by the court's decision.

Army and Aircraft Personnel Visit Hill

Nationally prominent aircraft manufacturer representatives and U.S. Army officers are visiting here this week to meet with Norris E. Bradbury and his staff. The group is discussing the relationship between aircraft design problems and the research and development program at LASL.

Ex-Hill School Head Visits

The former head master at the Los Alamos Ranch for Boys, L. D. Hitchcock, paid a visit to Los Alamos today. Hitchcock, now in government service, was in charge of the school until January, 1942, when he was called to military duty. As he drove about the Project, he commented, "I don't recognize anything but the scenery."

Hill Worker Becomes Detective

Raymond Slavik, Los Alamos, is happy to give the police any help he can, especially if it is a matter of a stolen sports coat, slacks, and shirt. Slavik told the Santa Fe Police Department that some-

one had purloined a sports coat, trousers and a shirt from his car on San Francisco street Wednesday night. Thursday evening he was driving on the highway to Albuquerque when a hitch-hiker thumbed a ride. The man was wearing a coat that looked quite familiar so Slavik raced to the nearest telephone and called police. The cops arrested the hitch-hiker and Justice of the Peace, J. V. Ortiz said, "One hundred dollars or 90 days." The man is planning to spend the next three months in the local lock-up. As of this writing, he does not have \$100, a sports coat, slacks or shirt.

Fermi Returns for Hill Stay

Enrico Fermi, University of Chicago Institute for Nuclear Studies, has returned to Los Alamos for a visit of unannounced length. Fermi, who did research here during the war, said he had nothing to say about his visit because of security reasons. Other than that, he said, he is pleased to be back on the Hill. "I am very much interested in the work here," he said.



In 1948 the Los Alamos Veteran's Club won the District Softball Championship title. Present day LASL employees who were members of the squad included, standing left, Gus Nagy, manager; front row, kneeling at extreme right, Lee Riedel; middle row at extreme left, Bill Cramer; top row, second from left, Art Beaumont; and extreme right, D. C. "Hank" Winburn; bat boy was Steve Russo, nephew of Ted Russo.



A white cloud bank appears almost like snow as it hovers just below the crest of the Sangre de Cristo Mountains, east of Los Alamos.

TRESSA MINSHALL
1365 41ST ST.
LOS ALAMOS, NEW MEXICO 87544



Swoosh! A motorbike operator plows through water on Diamond Drive, evidence of the unusual amount of rain received in Los Alamos in late July and August.